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CONTENTS

	PAGE
The American Blind Spot.—Washburn	1
"Ayesha" (Cont.)—Von Mücke. Tr. Klein	43
The Orient in 1916: Its Interest to the United States.—Moses	73
Our Navy and the West Indian Pirates (Cont.)—Goodrich	83
The Training of Recruits.—Durr	99
Kopok.—Court	125
Discussion	131
Secretary's Notes	136
Professional Notes	141
International Notes: Naval War Notes	189
International Notes: Diplomatic Notes	204
Review of Books	213
Notice.—Extract from Constitution	215
Special Notice.—Naval Inst. Prize Essay, 1918	216
Prize Essay Topics	217
List of Prize Essays	218
List of Articles Related to War College Work	223
Advertisements.	

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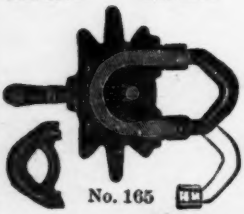
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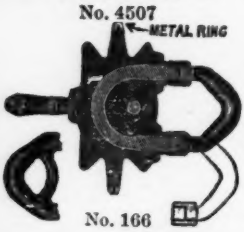

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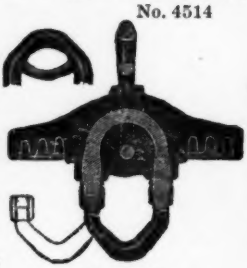
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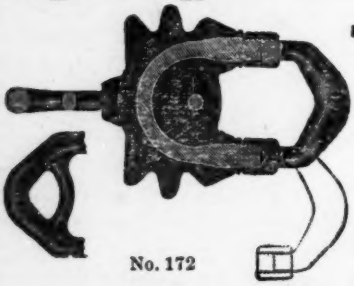
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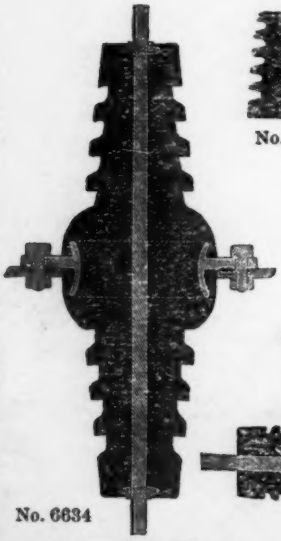
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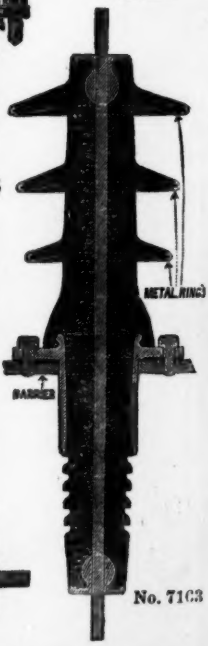

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CONTENTS

THE AMERICAN BLIND SPOT. By H. C. Washburn..... 1

"AYESHA" (Continued). By Lieutenant Hellmuth von Mücke, I. G. N. Translated by Lieutenant J. H. Klein, Jr., U. S. Navy..... 43

THE ORIENT IN 1916: ITS INTEREST TO THE UNITED STATES. By Commander S. E. Moses, U. S. Navy..... 73

OUR NAVY AND THE WEST INDIAN PIRATES (Continued). A Documentary History. By Rear Admiral Gaspar F. Goodrich, U. S. Navy.. 83

THE TRAINING OF RECRUITS. By Lieutenant Ernest Durr, U. S. Navy.. 99

KAPOK. By Naval Constructor A. B. Court, U. S. Navy..... 125

DISCUSSION 131

SECRETARY'S NOTES 136

PROFESSIONAL NOTES 141

INTERNATIONAL NOTES: NAVAL WAR NOTES..... 189

INTERNATIONAL NOTES: DIPLOMATIC NOTES..... 204

REVIEW OF BOOKS 213

NOTICE.—Extract from Constitution..... 215

SPECIAL NOTICE.—Naval Institute Prize Essay, 1918..... 216

PRIZE ESSAY TOPICS 217

LIST OF PRIZE ESSAYS 218

LIST OF ARTICLES RELATED TO WAR COLLEGE WORK..... 223

ADVERTISEMENTS.

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THE AMERICAN BLIND SPOT

By H. C. WASHBURN

Motto: None are so blind as those who will not see.

INTRODUCTION

In the following article, a brief is held for the growing conviction among Americans that our military and naval policy, as summed up in the word "preparedness," needs not only to be enlarged, but revised; not only increased in the number of *personnel* and the amount of *matériel*, but reorganized, reconstructed, "built up anew." It is contended, and the contention is based on the facts of American military and naval history, that our old way of doing things, where the army and the navy are concerned, is not necessarily the best way; that it may be necessary not only to pour new wine into old bottles, but to make new bottles; and that if this be true, there is no use in shirking the unpleasant argument that American military policy in the past has been fundamentally unsound and false.

The writer makes no claim to originality in maintaining that the American belief in the efficacy of our traditional military policy of voluntary service, still wide-spread but gradually waning, is based on illusions and on misinterpretation of the real factors of our qualified successes in war; that the *real* factors of our ultimate success or escape from disaster in all our wars, being factors unseen by the great majority of the people, have conspired to create an American military blind spot in the national vision; that until this

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blind spot can be eradicated by thorough education of the people in their *true* military history, the United States cannot hope to be prepared for war or against war; and that compulsory military training is the only true solution for American problems of "preparedness."

It must be recognized, since it is indeed obvious, that a large number of Americans are sincerely opposed, by tradition and present conviction, to the very thought of compulsory military training and service. The very word "compulsory," in their minds, is virtually synonymous with conscription and militarism, both terms of reproach and anathema when regarded from the supposed European point of view. But this same word "compulsory" conjures up no bogey when it is used in connection with education, police regulation, sanitary and pure food laws, or jury duty. Parents who are opposed to sending their children to school may raise the cry of liberty of the citizen, but this cry falls on deaf ears, and these parents are *compelled* to give their children the privilege of education. The children, in their turn, are *compelled* to go to school, whether they desire to go or not; they are not only not consulted, and given no choice in the matter, but when they seek to avoid their schooling, they are arrested for truancy. On the other hand, grown-up citizens who seek to evade the duty of learning to defend their country are allowed to evade this duty at will, and grown-up citizens who earnestly desire to undergo military training without leaving their trades or their business pursuits, face difficulties which to the great majority of them are insurmountable. Only a mere handful can spare the time to attend even one session of a training camp, where the training, however beneficial, is not and cannot be thorough. This is as true of naval training cruises as of army training camps; both alike are excellent *so far as they go*, but they merely scratch the surface of the problem. Worse than all this failure to be thorough is the demoralizing influence of knowing that only a few men are being trained, whereas millions are either shirking the training or are unable to take advantage of it; and that in any event, no man will be compelled to go to war unless he happens to have joined the army, the navy, the marine corps, or the nationalized militia. *Such a state of affairs puts a terrific premium on patriotism.* It always has, and it always will. The logical human question will not down, and cannot be intelligently avoided: "If *I* go to serve my country, *why should Smith and Jones and Brown not go also?*"

Why not, indeed?

Some day this question will be answered once and for all. It has already been answered by Thomas Jefferson and by Abraham Lincoln, as will hereinafter be shown. Their answer, and the answer of Great Britain's experience in the present war, is universal compulsory military service; whether that service be fighting in the trenches or making munitions, driving an ambulance or gathering the nation's crops, pounding a typewriter or commanding the Atlantic fleet is a matter of fitness for the work to be done, a matter of detail. For we are not living in the age of Jefferson or the age of Lincoln; we are living in an age when *a whole nation* goes to war.

To say that in the course of time the United States will adopt compulsory military training and compulsory military service, both for the army and the navy, sounds like a bold prediction in 1917; in 1930, or even in 1920, it may not sound so bold. Whoever considers this prediction as rash is requested to examine the following different ways in which it may be stated:

1. In time, the American people will apply their business ability and their genius for business organization to military and naval affairs.

2. In time, the United States will abandon the policy it has long shared with Great Britain and China—the only other nations of importance which, in time of peace maintain expensive professional soldiers, but in time of war resort to volunteers who must be trained after war begins.

3. In time, the United States will abandon a military policy which is both initially and ultimately the most costly, both in treasure and in blood, that could be devised, and which has had terrible, though forgotten, results in all our wars.

4. In time, American democracy will find its most valuable and its truest expression in the training of all its able-bodied male citizens, the rich and the poor side by side, to defend and uphold the honor, the interests and the safety of the nation.

5. In time, the warning of Washington, the insight of Lincoln, and the prophetic advice of Jefferson will be at last understood, appreciated and vindicated.

Why is universal military training and service an accepted order of things in France, which has the most democratic army in the world, and in Australia, the newest of modern democracies? Is

it accepted in these countries as an evil born of necessity, or as a great benefit never to be forgone, a splendid force making for thorough democracy and national unity, national intelligence, and national physique? Are there any other reasons why these nations approve of the *compulsory* part of the service with the colors? Yes. For one thing, a necessary burden is shared by all who are capable of sharing it, just as taxation is shared by all who are capable of sharing it. When a burden is shared by all, it ceases to be a burden, or it comes as near ceasing to be a burden as anything can come in human affairs. For another thing, it is the only way to reach the slackers, the lazy men, the men of soft lives, and the cowards; it not only reaches them, but it makes men of them, if anything can. And again, it makes plain what would otherwise *not* be plain to hundreds of thousands, *the duty of military service inherent in citizenship.*

The militia and volunteer system is an anachronism. It will in the course of time be relegated to the status of other bygones, and will assume the sentimental and historical interest of flint-lock muskets. It comes down to us from the time of flint-lock muskets.

The professional soldier system (curiously antagonistic, yet curiously allied to the volunteer system) is another anachronism. It comes down to us from an even more distant period, the ancient and mediæval period, the feudal period. Even at that, it is an inferior aspect of feudal military customs, since it harks back to hireling or mercenary troops, rather than to feudal levies called out by the king, and serving as a performance of duty to an overlord. This is not saying that the modern professional soldier is a hireling or a mercenary in the connoted meaning of these words; but it is saying that military service *in its highest form* is not something to be paid for, nor yet a matter of choice, but is the duty of a citizen to the nation.

Professional officers have been indispensable to all great nations throughout history, and they are to-day increasingly valuable, in direct ratio to the increasing complexities of scientific warfare. This is admitted even by those who uphold the voluntary system of raising armies. If it is objected that these professional officers are paid for their services, the answer is that they are not paid to fight, but to train and lead fighters, and to educate other leaders. And it may be added that only a sufficient number of officers should be paid, or professional, since the largest possible number of

officers should serve for a required term with the colors after serving in the ranks as a duty, and after being promoted therefrom. Only those officers who devote their *whole lives* to the military and naval professions *are capable of organizing ultimate safeguards for the nation.* For this life service the nation owes them a living in the same way that it owes any federal servant a living. Their only true reward is honor due to self-sacrifice, which they offer in peace if not in war; the least the nation can do is to give them maintenance, both in active service and in retirement.

Every American citizen worth his salt should rejoice to have the *opportunity* to receive thorough training as a soldier or a sailor serving with the colors, provided, most especially, that *all other* able-bodied citizens, at a certain age, are called upon, even if it be by lot, to serve with the colors. This opportunity can be given to the poor man, or the man of limited means, only by a law establishing compulsory military training. Under such a law, his family must be provided for while he is in service, and his employer must be forced to continue his employment when he returns from service.

The only compulsion in universal training and service, speaking strictly and honestly, is a compulsion *to perform a duty already recognized,* and recognized in the statutes of the United States. To all truly patriotic citizens, then, it would not be compulsory. The word " compulsory " would apply, in their minds, to somone else, just as the criminal law applies to " someone else " and sends the criminal *by compulsion* to jail.

Capitalist and laborer would then have to dig trenches side by side, in the rain and the mud; they would share the same rations from the " chuck-wagon "; they would sleep side by side in the same " dog-tent "; and the better soldier of the two would win promotion. That is a consummation devoutly to be wished, as one sees the sinister disputes and the class hatred summoned up by the disgraceful phrase, " capital and labor." This " elbow-touch " and comradeship of camp and field, which we in America need so badly with all our vaunted democracy, has already proved to be a great force working for the truest democracy in the French Republic, the Swiss Republic, and the Commonwealth of Australia. The fact that " militarism " in some other country can be, or actually has been, *superimposed* upon the essentially democratic structure of compulsory military service, is no argument against it, for the

simple reason that *only an autocracy* can thus superimpose militarism upon a people. If we are to determine the effect of compulsory service upon a nation, we must first ask ourselves an exceedingly important question: "Are we considering autocratic monarchies, or are we considering democracies?" In the case of the United States we are considering a democracy. We can argue, therefore, only on the basis of what compulsory service has done in other democracies—France, Switzerland, Australia. From this, the sole logical basis of reasoning, are we not forced to the conclusion that compulsory training and service are essentially democratic?

But this is by no means all. When war comes upon us, we shall find that universal service is essentially *scientific*. The inevitable sacrifice of life, when entailed under universal service conditions, *distributes* the loss of men among *all* classes or grades of human value to the nation. Whereas, under the voluntary system *only the flower* of a nation's manhood, with but few exceptions, is sacrificed in war. The "slackers," the materialists, the unpatriotic are left as survivors to breed future population. The casualties in the French Army, for instance, represent virtually a "perpendicular" loss; or, in other words, a loss of a part of each stratum, from the highest to the lowest, in human value to the French nation. On the other hand, the casualties in the British Army, under the voluntary system, represented a terrible "horizontal" loss, or a loss of the bravest and best, a loss of human value taken from the highest strata of Great Britain's manhood. And so it was during the greater part of our own Civil War, with what results to posterity no man can tell.

SEEING IS BELIEVING

If the American people could *see* clearly the now unseen lessons of their military history, from 1776 to 1898, they would see clearly the military necessities of the nation to-day. But the vast majority of Americans have never understood the real facts as distinguished from the fables of their military history. The result is that they have little or no insight into the question of what preparedness really means. One would suppose that the greatest war in all human history would, nevertheless, drive home the lesson. Yet it has not. True, it has awakened the American people to some sense of their military weakness. They flatter themselves that "at last" they have "waked up" to the urgency of preparedness; but it is

only a fitful disturbance of their sleep in a fool's paradise which thus seems to them an "awakening."

The fact is that they are now groping toward a preparedness larger in quantity, but of the same old kind, rather than reaching with clear vision toward a preparedness different and superior in quality. The present weapon of defence, the militia and volunteer system, is, though Americans as a whole fail to see it, merely a BLUNDERBUSS. This blunderbuss, Americans suddenly discover, is too *small*. Therefore, they are demanding a LARGER BLUNDERBUSS.

Why demand a larger blunderbuss, when you can get a MACHINE GUN? In other words, what the United States needs is not a larger militia and volunteer system, but a different and superior system altogether, which is universal service. THIS IS THE MACHINE GUN!

THE HEART OF THE MATTER

While the people are groping toward new ideas and new standards in military and naval affairs, how can the largest possible number of citizens be reached and educated in the shortest possible time, to the end that they may face the true facts of their military history, and, having faced those facts, create a mighty force of public opinion working *in the right direction* toward a sound military and naval policy?

In this age of instantaneous communication of thought by means of newspapers and magazines, when millions read to-morrow what is said or written to-day by one man, the answer to the foregoing question seems simple: Educate the people through the newspapers and magazines. And the fact is that a certain amount of intelligent discussion has already found its way into the public prints. Unfortunately, however, a great deal of this discussion is discounted, or falls on deaf ears, because the whole subject has entered into the realm of politics. This is utterly demoralizing. Preparedness should not be a political question in the sense of being a party question. Moreover, powerful forces of publicity are arrayed against even an increase in the personnel or matériel of our *present* system of maintaining an army and a navy.

While the greatest question before the country is thus involved in politics, and while the contending forces of the pacifists and the advocates of preparedness are taking the field against each other,

the few experts who know what the nation needs, the trained officers of the army and the navy, hardly obtain a hearing. And meanwhile the heart of the matter has not been touched.

The heart of the matter would seem to be this: That millions of Americans must be taught, and taught quickly, *the bitter lessons of their own military history;* that the officers of the army and navy, men removed from politics, should mobilize their resources of publicity, and organize a great campaign of education in American military and naval history. Thus to educate millions of people in a few years, under ordinary circumstances, might seem impossible, yet that is precisely what the German Navy League accomplished, in times of peace, in a few years. Now, in time of war, the iron is hot. It is time for the experts of the army and navy to strike.

THE PROBLEM OF EDUCATION TOWARD PREPAREDNESS

Before education of any kind can be brought to bear upon the persons to be educated, there must be an understanding of the kind and degree of ignorance to be met, and of the *inherent prejudices* to be overcome.

What are the inherent prejudices of the average American concerning our military history and policy, past and present?

The average American believes, first, that a *small establishment of regulars, whenever the emergency arises, can successfully leaven a large lump of militia and volunteers.* He has always believed in this fallacy, and he believes it *now,* despite the stunning proof of its falsity clinched by Great Britain's experience in the present war. In fact, there is but little exaggeration in saying that this belief has always been almost a part of an American's religion.

This belief, inherited from England, is in our own history the independent result of three main causes:

(a) The total misunderstanding of the real factors of American success, or escape from disaster, in all our wars.

(b) The distrust of standing armies, or "militarism," engendered during the colonial period.

(c) The fables of American military and naval history taught in the schools and colleges even to this day.

Until the belief of the average American, thus stated, can be obliterated, the United States need not hope for adequate military preparedness.

Secondly, the average American believes that *the man who enlists in the army or the navy is either wasting his life or is inferior to other men—in some way not explained.* This statement will, of course, be hotly denied. Yet the average American, down in his heart, knows it is true. AND IT WILL ALWAYS BE TRUE WHEREVER A NATION MAINTAINS A PROFESSIONAL ARMY. It will cease to be true only WHEN THE ARMY AND THE NATION ARE ONE AND THE SAME. It is human nature to think that some one else is inferior; it is not human nature to think that you yourself are inferior. We can never have a truly American or a truly democratic army in these United States until the uniform of a soldier in the ranks and the uniform of the bluejacket in the forecastle constitute a dual badge of honor, not only actually, as they are *now,* but by the consent of *all* Americans. This applies with equal force to Great Britain, and is eloquently expressed by many English writers, among them Frederick Scott Oliver, in his "Ordeal by Battle." Yet it has never been put in words that can equal the ringing lines of Kipling:

I went into a theater as sober as could be,
They gave a drunk civilian room, but 'adn't none for me;
They sent me to the gallery or round the music-'alls,
But when it comes to fightin', Lord! they'll shove me in the stalls!

For it's Tommy this, an' Tommy that, an' "Tommy, wait outside";
But it's "Special train for Atkins" when the trooper's on the tide.
The troopship's on the tide, my boys, the troopship's on the tide,
O it's "Special train for Atkins" when the trooper's on the tide.

Yes, makin' mock o' uniforms that guard you while you sleep
Is cheaper than them uniforms, an' they're starvation cheap;
An' hustlin' drunken soldiers when they're goin' large a bit
Is five times better business than paradin' in full kit.

The word "drunken" would not be associated with the word "soldier" or the word "sailor" if we had universal service. The words "enlisted man," unknown in France and Switzerland, would not exist, would no longer designate a being essentially different from an officer. The uniform of a soldier or sailor would then be seen in the boxes at the opera, instead of being the insignia of *persona non grata* at a moving-picture show!

Whosoever comforts himself with the thought that Kipling's poem does not apply to the American enlisted man as well as to the British Tommy (in the *mind* of the average American, of course) either does not know the facts or exercises an amazing power of self-deception, or knows he is a hypocrite.

THE BLIND SPOT

It is difficult to find an analogy that will illustrate fully the peculiar attitude of the average American toward the military policy of the nation. Not until it is realized that Americans *see* most things clearly, but see one thing—military policy—not at all, does the analogy present itself. This analogy must be, then, something which shall express a defect of vision, but a defect in only one part of the vision as a whole. No parallel can be found except in the blind spot of the retina, "that point in the retina of the eye which is insensible to light."

How far does this analogy carry us? Fortunately, for the sake of illustration that is significant, it will carry us just so far and no farther; the point at which the parallelism ceases is the point at which an optimistic construction can be placed upon the analogy.

At the outset, the analogy holds good. The possessor of a blind spot, speaking in terms of anatomy, *is not aware that he has any defect in vision until that defect is proved to exist.* Only an expert or a person having superior special knowledge of the subject, in this case an anatomist or a physician, can prove or demonstrate the existence of the blind spot. Secondly, the analogy holds good in this: that *even when a man is convinced that he has a blind spot, he soon ceases to attach any value to the fact.* The reason is obvious—under *normal* conditions, under *usual* conditions, the blind spot *gives him no trouble.*

The application of the analogy is now clear. Just as the existence of the anatomical defect is not realized, so the American defect of "vision," where military affairs are concerned, is not known to exist. Also, it may be said that only an *expert* in military affairs can successfully prove or demonstrate that the defect actually is a fact. Moreover, even when the defect is pointed out to the American people, they soon cease to attach any serious value to it, since *under usual or normal conditions,* which is to say, *in times of peace,* the American military blind spot gives Americans no trouble.

Here, of course, the parallelism ceases. The imperfection of the analogy lies in the fact that the anatomical "blind spot" will not cause trouble even under abnormal conditions, while the American military blind spot, somber and foreboding as the statement must be, is bound to cause, when war springs upon us suddenly, an untold waste of blood and treasure.

Finally, to round out the possibilities of the analogy, it should be realized that whereas the blind spot of anatomy cannot be eradicated, the American military blind spot can be made to disappear by education.

ASSERTION NEEDS PROOF

Thus far we have been dealing in assertion, and it is now most necessary to prove this assertion. For there are many thousands if not millions of Americans who will take exception to the foregoing statements, "lock, stock, and barrel." Indeed, if most Americans agreed with these statements, there would be, happily, no need of formulating them.

To judge by letters written to the editor of a certain New York newspaper, frank criticism of American military policy during our past history hurts the pride of the average American. His pride is hurt because, as he thinks, though erroneously, that our glorious traditions in war seem to fade under such criticism. His astonishment is quickly followed by resentment and scorn. To take a specific case in point, a certain editorial article expressed the opinion that our military policy has always been a false one; that it has led to many defeats, routs, and disasters which Americans have forgotten; that our escape from ultimate disaster in all our wars has been the result of factors having little or nothing to do with the efficiency of our armies; that we have won in spite of our inefficiency. A subscriber wrote an impassioned communication denying the truth of the editor's statements:

> How strange that we have *won* all our wars with this same "false" military policy. We *did* win, did we not, in 1776, 1812, 1846, 1861 and 1898? What more could be asked for? Why not leave our military policy well enough alone, considering the undoubted fact that it has always brought us success?"

At this juncture in the controversy, an army officer wrote a letter supporting the views expressed by the editor. The excited correspondent then flared up as follows:

Who is this upstart that makes such sweeping assertions? If they were accepted they would nullify the traditions of our entire military history, and throw discredit upon the intelligence of Americans throughout the whole time of our existence as a nation.

Assuming that the American citizen who wrote these words of condemnation is representative of the American blind spot, it can be readily seen that he felt justified in referring to the army officer as an "upstart."

THE WARNING OF GEORGE WASHINGTON

The first "upstart" to express the views of the army officer was George Washington, the Father of his Country, and the commander-in-chief of the Continental armies throughout the Revolutionary War. In Washington's letter to Congress, written on September 15, 1780, he sounded the grave but unheeded warning which follows:

Regular troops *alone* are equal to the exigencies of modern war, as well for *defence* as offence, and when a *substitute* is attempted it must prove *illusory* and *ruinous.*

These are the words of authority, of actual experience in high command. They are the words of one who was in the best position to know whereof he spoke. They are words carefully weighed and deliberately chosen. They are more true to-day than they were in 1780, if such a thing be possible. The American citizen of 1917 may well think them over. In the next paragraph of Washington's letter he continued:

No *militia* will *ever* acquire the *habits* necessary to resist a regular force. The firmness requisite for the *real business* of *fighting* is *only* to be attained by *constant* course of *discipline* and *service.*

Either the most casual or the deepest study of our military history will show that Americans have never followed, never even understood, Washington's solemn words of advice.

The third paragraph of Washington's letter to be quoted here should be committed to memory by every American citizen of to-day:

I have never yet been a witness to a *single* instance that can justify a different opinion, and it is most earnestly to be wished that the liberties of America may *no longer* be trusted, in a material degree, *to so precarious a defence.*

Have the American people ever appreciated the significance of these ringing words of truth? There is but one answer: they have not. Americans of 1780 did not grasp their meaning, and the unadorned facts of our military history prove, again and again, that the American people have never *seen* Washington's meaning. "They have eyes, but see not." They have a blind spot. We have always depended upon the militia and volunteers. Only once have Americans waged a really great war—the Civil War—and only once (in this Civil War) have we had, since Washington, a great American who saw Washington's great truth.

THE INSIGHT OF ABRAHAM LINCOLN

Abraham Lincoln was the second "upstart" whose genius pierced through the fog of error known as American military policy. This policy had failed, and failed miserably, in 1861 and 1862. The Union was saved only by *dropping* our military policy of militia and volunteers, and by substituting, at the eleventh hour, a totally different policy. In 1863 the *Draft Act* was passed. Compulsory military training and compulsory military service brought about the only armed forces that could end the Civil War.

In the letters and state papers of Abraham Lincoln there is a document headed "Opinion on the Draft," and dated August 15, 1863. It proves, in words written by the heroic genius who has been called the greatest of all Americans, that our military policy failed in the greatest crisis through which our people have ever passed. Lincoln stated:

> They tell us that the law is unconstitutional. It is the first instance, I believe, in which the power of Congress to do a thing has ever been questioned in a case when the power is given by the Constitution in express terms. Whether a power can be implied when it is not expressed has often been the subject of controversy; but this is the first case in which the degree of effrontery has been ventured upon of denying a power which is plainly and distinctly written down in the Constitution. The Constitution declares that "The Congress shall have power . . . . to raise and support armies." . . . . The whole scope of the conscription act is "to raise and support armies." . . . . *Shall we shrink from the necessary means to maintain our free government? . . . . Are we degenerate? Has the manhood of our race run out?*

THE MESSAGES OF WASHINGTON AND LINCOLN COMBINED

If Americans will analyze the messages to posterity vouchsafed to them by their two greatest men, Washington and Lincoln, they will be forced to the following conclusions:

1. That a "constant course of discipline and service" can alone make a soldier, by whatever name you choose to call that soldier.

2. That service in the army or the navy is the duty of an able-bodied citizen, and not a matter of choice.

3. That the Constitution gives to Congress the power to establish a system of universal compulsory military training and military service, not only in war, but *in peace*.

4. That *only in time of peace*, according to Washington, can we prepare intelligently for war.

5. That the American army and navy must both be under the control of the federal government, completely under that control, and not partly under the control of the states.

6. That our military policy in the past has been a false one.

THE HINDSIGHT OF THOMAS JEFFERSON

Washington and Lincoln represented the truth. Thomas Jefferson, until his later years, represented the error—the blind spot. This can be proved from Jefferson's letters. In regard to military and naval affairs, his letters show not only confusion of mind, but a complete change of mind, brought about by the bitter experiences of the War of 1812.

First, as to Jefferson's confusion of mind. (1) In his first annual message to Congress, December 8, 1801, he said:

> For defence against invasion, their [the regular army's] number is as nothing; nor is it conceived needful *or safe* that a standing army should be kept up in time of peace for that purpose. Uncertain as we must ever be of the particular point in our circumference where an enemy may choose to invade us, the only force which can be ready at every point and *competent* to oppose them, is the body of neighboring citizens as formed into a militia.

The capture of the city of Washington, in 1814, forced Jefferson to reverse his opinion of the militia thus expressed, though he attributed the rout at Bladensburg to the wrong causes.

2. In a letter to Mr. Crawford, dated February 11, 1815, Jefferson wrote:

It [the battle of New Orleans] proved . . . . that our militia are heroes . . . . and that, *when unembarrassed by field evolutions, which they do not understand,* their skill in the fire-arm, and deadly aim, give them *great advantages* over regulars.

Could anything be more absurd than this statement from a believer in militia? He frankly confesses that the militia are incapable of field operations! He believes that the militia have a great advantage over regulars because of their superior marksmanship! No further comment is necessary to point out the humiliating maze of intellectual confusion into which Jefferson was heading in that letter. He was a typical representative of the American blind spot, for he did not even begin to realize his ignorance. His argument, on the face of it, is a *reductio ad absurdum.*

Secondly, as to Jefferson's complete change of mind, though the confusion still persisted.

1. In the "Anas," or Jefferson's private diary, under date of November 23, 1793, we read of a Cabinet meeting held shortly before his resignation as Secretary of State under President Washington:

November 23. At the President's. Present, Knox, Randolph and Th: Jefferson. Subject, the heads of the speech. One was, a proposition to Congress to fortify the principal harbors. I opposed the expediency of the General Government's undertaking it, and of the President's proposing it. . . . . It was proposed to recommend the establishment of a military academy. I objected that none of the specified powers given by the Constitution to Congress would authorize this.

2. In a letter to Mr. Madison, June 15, 1797, Jefferson wrote:

The Senate yesterday rejected . . . . their own bill for raising four more companies of light dragoons, by a vote of 15 to 13. . . . . To-day the bill for manning the frigates and buying nine vessels (about $60,000 each) comes to its third reading. Some flatter us we may throw it out. . . . . The fortification bill is before the Representatives still. It is thought by many that with all the mollifying clauses they can give it, it may perhaps be thrown out.

Jefferson was at that time Vice-President.

3. It will be remembered that in 1794 Congress had authorized the building of six frigates. Of these, three were completed and launched in 1797. In 1798 occurred the *Baltimore* affair, and in the same year French privateers began to make captures in American harbors. At once Congress authorized the building of

more ships-of-war, since diplomatic protests had been made in vain. Talleyrand, French Minister of Foreign Affairs, insolently informed American commissioners that a large bribe (he named the sum of money) would procure safety for American merchantmen. To this offer Charles Cotesworth Pinckney made the famous reply: "Millions for defense, but not one cent for tribute!" In 1799-1800 followed our "quasi-war" with France, in which we waged naval warfare on a small scale in the West Indies, capturing a number of merchantmen and the French ships-of-war *l'Insurgente* and *le Berceau*. As the result of this resort to action rather than words France yielded, and actual war was prevented, because the French realized that our capture of 67 of their merchantmen was an ominous sign of our power to inflict damage. Then came our war with Tripoli, when the small American Navy brought the Barbary pirates to terms of submission that were made permanent in 1815 by Decatur's squadron acting against Algiers.

Our naval activity in 1799, 1800, and from 1801 to 1805 was the schooling of the American naval officers who gained for their country in the War of 1812 the respect of the world. What is more, this naval activity had accomplished results. One would think that Jefferson should have appreciated these things, but he did not. Soon after France had acceded to our terms Jefferson became President, on the 4th of March, 1801. Following his inauguration he expressed his desire to "lay up the larger men-of-war in the Potomac, where they would require *only one set of plunderers* to take care of them." This was the reward of an officer like Truxtun, of a midshipman like David Porter—to be classified as "plunderers." Thomas Jefferson failed utterly to understand naval officers, or to appreciate the value of a navy. Further proofs of his attitude of mind are too numerous to quote, save for the few that follow.

4. In 1807 occurred the *Chesapeake* affair; a United States ship-of-war, taken unawares, was riddled by British broadsides, and from her three American citizens were taken aboard H. M. S. *Leopard*. Jefferson's reply to this outrage was to order all British ships-of-war to leave American ports. Thereupon Great Britain issued an Order in Council which treated American ports "as if the same were actually blockaded in the most strict and rigorous manner by His Majesty's naval forces." Napoleon then issued the Milan Decree, that "any foreign vessel allowing the British to

board her and examine her papers" became "*ipso facto* liable to seizure." Congress at once passed the Embargo Act, prohibiting our vessels from leaving port. This and the Non-Importation Act had, of course, a most disastrous effect on American trade. Such legislation entailed the miseries of war without its compensations. It rendered our commerce stagnant, and, by forcing business interests to evade the law, corrupted the moral sense. Affairs, as might have been predicted, went from bad to worse, until, in January, 1811, our Minister to Great Britain took his departure.

Bearing in mind the *Chesapeake* affair and other events of 1807, one is astonished to read a letter from Jefferson to Thomas Paine written during that year: "I believe that gunboats are the only *water* defence which can be useful to us and protect us from the *ruinous folly of a navy*" (Works, Ford ed., IX, 137). "The gunboats desired by Jefferson were small, cheap craft equipped with one or two guns and kept on shore under sheds until actually needed, when they were to be launched and manned by a sort of naval militia. A large number of these boats were constructed. In bad weather, or when employed against a frigate, they were worse than useless, and Jefferson's 'gunboat system' was admittedly a failure." Listen, then, to the error of the blind spot: "The ruinous folly of a navy." This "ruinous folly" saved the War of 1812 from being a complete fiasco, broke the sea spell of England, did much to end the war by damaging England's commerce, and won for Americans their own self-respect, and the respect of the world. There was also the decisive effect of Macdonough's victory on Lake Champlain, which saved the Great Lakes and a strip of territory south of the Lakes.

We have seen Jefferson's attitude of mind during so-called times of peace. It is now important to indicate his change of mind, the complete reversal of his point of view, by the time actual experience during the War of 1812 had proved him to be wrong. The one occurrence that really impressed Jefferson was the battle of Bladensburg and the subsequent burning of the public buildings at Washington.

1. In a letter to the Marquis de Lafayette, Jefferson boasted of our naval victories in single-ship actions against British ships-of-war. Had he forgotten his ideas of the past—his "ruinous folly of a navy"?

2. In another letter to Lafayette, he remarked: "Our 30 years of peace had taken off, or superannuated, all our Revolutionary *officers of experience* and grade; and *our first draft in the lottery of untried characters had been most unfortunate.* The delivery of the fort and army of Detroit by the traitor Hull; the disgrace at Queenstown; the massacre at Frenchtown under Winchester; and the surrender of Boerstler in an open field to one-third of his numbers," were, he says, "inauspicious." He failed to analyze the real nature of the factors of defeat, but he clearly admitted that the militia system had failed. (February 14, 1815.)

3. Most extraordinary of all his statements, in view of his former opinions, was his expression of regret, and even of sorrow, that Monroe's plan for *compulsory military service,* submitted when Monroe was acting Secretary of War, was not adopted. To Monroe he wrote concerning this plan to introduce into the United States Napoleon's method of classification by age and conscription:

> Nothing more *wise* or *efficient* could have been imagined than what you proposed. It would have filled our ranks with *regulars,* and that, too, by throwing a *just share of the burthen* on the purses of those persons who are exempt either by age or office; it would have rendered our *militia . . . . a nation of warriors.* But the go-by seems to have been given to your proposition, and longer *sufferance* is necessary to *force* us to *what is best.* We seem equally *incorrigible.* . . . .

Jefferson painted in those words a cruelly realistic picture of the average American mind afflicted with the blind spot until too late. He had at last come to understand the value of *regulars;* he had even recognized the value of *compulsory military training.* In other words, after a life-time of erroneous thinking about military affairs, he had not only agreed in principle with George Washington, but had anticipated the insight of Abraham Lincoln.

That there may be no doubt of this change in Jefferson's mind, the following extracts from his letters are quoted:

1. He expressed regret that Madison had accepted the billet of Secretary of War:

> *Raw* troops, *no* troops, *insubordinate militia,* want of *arms,* want of *money,* all will be charged to want of management in you.

2. In a letter to Monroe:

> We must *train* and *classify* the *whole* of our male citizens, and make *military instruction* a part of collegiate education. *We can never be safe until this is done.*

These are the words of the statesman who opposed the establishment of the Military Academy at West Point, who opposed coast fortifications, who hoped to throw out bills for increasing our regular army, and bills to provide officers and men for our naval vessels. Compulsory military service, and compulsory military training! These were the ideas forced upon Thomas Jefferson by the bitter lessons of war. These were, at last, the ideas of "the embodiment of American democracy."

Washington in his wisdom, Lincoln in his wisdom, and Thomas Jefferson in his ignorance that changed to wisdom—have the American people ever grasped the meaning of their messages to posterity?

Is it not just, is it not free from exaggeration, to maintain that a nation which has consistently failed to understand, much less to heed, the solemn warnings of its greatest men, is a nation afflicted with a defect of vision? Is it not necessary to realize, after reading the words of Washington, Jefferson, and Lincoln, that the American people have a military blind spot, and that this blind spot must be done away with if we are to escape disaster?

THE ORIGIN OF THE BLIND SPOT

The blind spot originated at the battle of Bunker Hill, at the very outset of our military history.

This fact has been clearly recognized by experts, and notably by Charles Francis Adams, General Greene, and General Upton. General Greene has stated the point concisely in his military history of the American Revolution:

"The Americans," he writes, speaking of Bunker Hill, "without proper organization, equipment, or supplies, had fought the best regular troops of Europe, and had repulsed them until their ammunition gave out . . . . and they were convinced that they could do it again, and that *regular organization was not necessary*—a conviction which they tenaciously held to throughout the Revolution; and then *transmitted to their descendants, who have believed it almost to this day.*" General Greene should be forgiven for saying "almost" to this day. He had not heard the statement made in 1915, that an army of a million men can be raised between sunrise and sunset; he had not even heard of the word "pacifist," or of the phrase "peace at any price."

Bunker Hill was a blunder on both sides; the only thing that saved the Americans was the fact that the British showed a superior capacity for blundering. Colonel Prescott attempted to hold Charlestown Neck, a peninsula connected with the mainland by a very narrow causeway. Thus, in the face of an enemy that enjoyed complete command of the sea, he walked into a trap. If the British general, Gage, had not been a fool, he would have taken the advice of Clinton and his other officers, who urged him to close the trap upon the Americans by occupying the western end of Charlestown Neck—the door of the trap—under cover of the guns of the ships. Prescott and his men would then have been powerless, for on the mainland they had no troops that could have driven the British off, and their own retreat would have ended in slaughter. They could have surrendered, or they could have died of starvation, as they chose.

But Gage showed, as Charles Francis Adams proves, "a superior capacity for blundering." With great loss, the British general actually *drove Prescott's men out of the trap,* by hurling a series of frontal attacks against an intrenched position on high ground. Also, Gage *left the only door of escape wide open.* There are many kinds of luck, but Prescott was blessed with most unusual luck; he made a blunder which should have cost him his whole force of men, and his opponent, by making an even worse blunder, allowed Prescott's brave men to win an invaluable moral victory. For, until their powder and ball were used up, they resisted an equal force of the best troops in Europe.

This moral victory was sorely needed to steady and strengthen the American cause. From the point of view of moral effect, it was admittedly the most important battle of the Revolution. Unfortunately, the battle of Bunker Hill was also the first and the most important cause of the American military blind spot. Those who are not convinced of this will do well to read the "Essays Military and Diplomatic" of Charles Francis Adams, and the following comment of General Upton:

> The lesson to be learned from this remarkable conflict is the value of trained officers—a lesson which neither our statemen nor our historians have ever been able to appreciate. . . . . During the various assaults it was the confidence of the militia in Prescott that enabled them to wait until he gave the command "fire." Prescott, Putnam, Stark, Knowlton, and . . . . other officers [present at the battle] had received military training in the

French and Indian War. It was by the advice and under the supervision of veteran officers that the intrenchments were constructed, and it was by reason of their practical experience in the art of war that a defense was made so gallant and so appalling in its results as to amaze the British army. . . . . In the presence of a Prescott, the patriotic Warren, without military knowledge and more eager for the triumph of his country than for personal renown, waived his rank of major-general in a reply as modest as it was true, "I come as a volunteer to learn from a soldier of experience."

General Upton then arrives at the inevitable conclusion:

Without pausing to discover the secret of the defence of Bunker Hill, the mistaken conviction seized the public mind that the militia were invincible, and that patriotism was the sole qualification for a soldier's calling—*a fallacy which paralyzed the military legislation of the Revolution* and constantly jeopardized our liberties by inducing the political leaders of the time to rely too confidently upon raw and undisciplined levies.

Thus, at Bunker Hill, started the legend that untrained Americans are superior to trained foreigners. He who reads the many letters of General Washington to Congress during the perilous years which followed might come to the conclusion that Congress was bereft of all sense and judgement, unless the patriotic men of that body had indeed developed the military blind spot that has come down from their time to ours.

The Revolution dragged on for years. Desertions and flights of the militia occurred regularly. Of these unmistakable signs of lack of training and organization American school histories, and, indeed, most of our famous historians, are strangely silent. The flight of Parsons' brigade at Long Island, Parsons' and Fellows' brigades at the evacuation of New York, Sullivan's division at Brandywine, the Virginia and South Carolina brigades at Camden, S. C., the North Carolina regiment at Guilford Court House, as well as incidents of the Harmar and St. Clair expeditions are perhaps the most notable, or notorious, examples. The militia mutinied at Morristown, at Pompton, at Lancaster; at Lancaster 80 recruits, joined by 200 other malcontents, marched to Philidelphia, demanded their pay, and held Congress prisoners on June 21, 1783. The letters of Washington during this period give ample proof of the demoralization among troops over which he was given no adequate power of control. Only the Regular or Continental Army showed consistent steadiness. Of the militia, General Schuyler complained as follows:

The vexation of spirit under which I labor, that a barbarous complication of disorders should prevent me from reaping those laurels for which I have unweariedly wrought since I was honored with this command; the anxiety I have suffered . . . . lest the army should starve, occasioned by a scandalous want of subordination and inattention to my orders in some of the officers I left to command at the different posts; the vast variety of vexations and disagreeable incidents that almost every hour arise in some department or other, not only retard my course, but have put me considerably back for some days past. If Job had been a general in my situation, his memory had not been so famous for patience. . . . . Nothing can surpass the impatience of the troops from the New England colonies to get to their firesides. Near 300 of them arrived a few days ago, unable to do any duty; but as soon as I administered that grand specific, a discharge, they instantly acquired health, and rather than be detained a few days to cross Lake George, they undertook a march from here of 200 miles with the greatest alacrity. . . . . *Our army requires to be put on a different footing.* . . . . I cannot, without the most extreme pain, see that disregard of discipline, confusion, and inattention which reign so generally in this quarter, and I am therefore determined to resign.

General Montgomery reported that his militia threatened to mutiny because he ordered them to march in one direction, and they decided it was better to march in another. Official documents which prove these contentions about the militia are too numerous to mention, let alone to quote.

On the other hand, the loyalty of Washington's trained troops, and the bravery of the Americans, whether regulars or militia, which was shown by the *splendid* but *exceptional* elements of the armies as a whole, cannot be overlooked, since it was the heroic few among the many demoralized elements which held Washington's small forces together and established many of our most glorious traditions. The *individual* valor and self-sacrifice of our forefathers is a heritage of which we are justly proud, but it has no bearing upon the *efficiency* or *inefficiency* of our *military policy* and our *system of raising armies.* Our regret should be that the cause of independence repeatedly faced irretrievable disaster, that the Revolution lasted so long, that the lives of so many hundreds of our bravest and best were *needlessly* sacrificed between 1776 and 1783.

Most important of all, if Americans are to appreciate the real factor of success in the Revolution, was the aid of the French at Yorktown. Misled by fables, we are apt to regard Yorktown as an American victory, yet Washington frankly acknowledged the impossibility of even attempting to defeat Cornwallis, let alone

accomplishing that decisive result, unaided. We won the Revolution, in the last analysis, only through the *direct assistance* of a foreign nation. At the very moment when the British were ready to embark at New York an expedition to reinforce Cornwallis with heavy consignments of troops and supplies, Admiral de Grasse of the French Navy, at the battle off Cape Henry, defeated the British squadrons under Admiral Graves, and secured control of the sea in that vicinity. It is a peculiar fact that only once in her history has France controlled the sea in such a way as to affect British military operations, or to strike a decisive blow. This once was at Yorktown. The battle off Cape Henry is one of the great examples of the influence of sea power upon history, for it meant to Great Britain the loss of her American colonies. What a false American military policy had failed to do, was done through temporary French control of the sea; de Grasse cut off all supplies of men and munitions, food and equipment, from Cornwallis; de Grasse alone enabled Washington to besiege Cornwallis. Only by the aid of the French troops landed from de Grasse's fleet was Washington able to maintain the siege of Yorktown and bring to a triumphant conclusion the war which established the independence of the United States.

General Upton summarizes the lessons of the Revolution on page 66 of his admirable work, "The Military Policy of the United States." American citizens may well read his conclusions carefully; in the present article, there is space for but one of his 15 "Lessons": "First. That nearly all of the dangers which threatened the cause of independence may be traced to the total inexperience of our statesmen in regard to military affairs, which led to vital mistakes in army legislation." With every willingness to forgive these statesmen for the inexperience which we cannot blame them for, their descendants of 1916 should remember that the men of the Continental Congress chose not to take the advice of capable military officers, and that by taking such expert advice they might have ended the war with less sacrifice of blood and treasure, in a shorter time. The fact that we *finally* succeeded in winning our independence with the direct assistance of a friendly foreign power may well give us pause before we assume that our military policy during the Revolution was correct.

THE BLIND SPOT IN THE WAR OF 1812

During the first two years of the War of 1812, *while Napoleon kept the British Army campaigning across the seas,* the United States had a splendid opportunity to invade Canada or to prepare its forces to resist invasion from the north. For when war was declared, the British regulars in Canada numbered less than *4500* effectives, and *this number was not increased until the summer of 1814.*

The American people, therefore, had ample time in which to put in practice their favorite theory of military policy—the fallacy that a small establishment of regulars, whenever the emergency arises, can successfully leaven a large lump of militia and volunteers. Needless to say, the two years of *rare* opportunity were *wasted.* They were wasted because the United States could not in that time raise a sufficiently *large* force of sufficiently *trained* men sufficiently well *organized* to accomplish anything worth while.

In a previous article in the UNITED STATES NAVAL INSTITUTE PROCEEDINGS, the writer has described at some length the events leading up to the Plattsburg crisis of September 11, 1814. The reader is referred to this detailed account of a crisis which proved that our military policy was wholly a false one. It is sufficient to say here that only by the great skill of Thomas Macdonough at the battle of Lake Champlain was the campaign of 1814 in the north saved from disaster; that on land, the entire force of American troops which was ready to prevent the loss of the Great Lakes and a strip of territory south of them was an ill-assorted force of 2500 men. Of these men, 1500 were regulars; the rest were untrained militia and volunteers who had joined at the last moment —between September 4 and September 11, the day of the battle. This force of 1500 regulars and 1000 militia was to resist the British army of invasion, 14,000 strong, under Sir George Prevost. Had Macdonough *not* won the battle of Lake Champlain (and he had, through American shortsightedness, a force inferior to the British naval force under Downie) the British army of invasion would have penetrated to Crown Point, if not to Albany. This is conceded by Admiral Mahan; it was conceded by the American general at Plattsburg, Macomb. Yet the American people believe that Macomb's force actually stopped the British army on the line of the Saranac; Americans do not realize that Sir George

Prevost's lines of communication were cut as soon as Macdonough gained control of the lake, and that this control alone stopped the British campaign of invasion. Since the naval battle, at its crisis, hinged upon the turning of the American flagship *Saratoga* "end for end" while at anchor to present her fresh broadside, this maneuver decided the whole campaign. To put the matter in another way, had a lucky shot from some British vessel cut the hawser attached to a kedge anchor off the *Saratoga's* starboard bow during the maneuver, Buffalo, Syracuse, Albany, and other towns would now, in all probability, be Canadian cities. Furthermore, the mere fact that after two years of war the Americans were still *on the defensive*, and on a very precarious defensive at that, is sufficient evidence that our military policy in 1812-1813 had been a failure. In 1812 the population of the United States was about 7,000,000. The population of Canada in 1812 was about 1,500,000. With these figures in mind, and remembering also that Great Britain during the first two years of the war was at death grips with Napoleon, and therefore could not maintain in Canada over 4500 regulars, it is interesting to note General Upton's statement:

> Had Congress on the 11th of January [1812], declared that all men owed their country military service, and decided to raise the army immediately . . . . to 35,000 men, to be held for the term of five years or during the war, it scarcely admits of a doubt that after six month' training and discipline this force could have occupied Canada and ended the war in a single campaign.

A fortiori, the war would certainly have ended in a single campaign if this American army of 35,000 with reserves had been trained during times of peace under compulsory military service. There was plenty of warning that war was inevitable. A statesman with ordinary foresight should have known it at almost any time, from 1799 to 1807, and certainly no later than 1807.

One of the principal factors of the War of 1812 was the destruction of British commerce by our naval vessels and privateers. The former captured or destroyed $6,000,000 worth of ships and cargoes; the latter, $39,000,000 worth.

It is most unpleasant to review very closely the land campaigns of the War of 1812; a story, as Roosevelt sums it up, of humiliating surrenders, abortive attacks, and panic routs." The small force of regulars fought well, but they were only a mere nucleus

in any one battle, and as a rule, were not supported by the militia. Three battles stand out prominently: Bladensburg,[1] the defence of Baltimore, and New Orleans. At Bladensburg, 5401 Americans, mostly untrained and unorganized, after losing less than 12 killed and 40 wounded,[2] fled from the advance guards (about 1500 men) of a British force numbering 3500. Baltimore and New Orleans were to all intents and purposes more successful versions of Bunker Hill, for in these two battles the Americans were able to fight behind well-constructed intrenchments. Moreover, the British forces were not sufficient in numbers to carry out wide flanking movements. Upton writes:

> The lessons of the war [of 1812] are so obvious that they need not be stated. Nearly all the blunders committed were repetitions in an aggravated form of the same blunders in the Revolution, and like them had their origin in the mistakes or omissions of military legislation.

With such a military policy, it was fortunate for the Americans that Perry and Macdonough saved the northern campaigns. It was even more fortunate that Great Britain was sorely embarrassed by Napoleon. We had won the Revolution, essentially, by the direct help of France; we escaped defeat in the War of 1812 through the *indirect* help of France. It never seems to occur to Americans to inquire what would have happened in 1812 if Great Britain's hands had been left free to deal with us, so that her whole military force could have been sent to invade us from Canada, under the leadership of the Duke of Wellington.

Speaking of Upton's conclusions, General Sherman was moved to express the following opinion: "The time may not be now, *but will come,* when these 'conclusions' will be appreciated, and may bear fruit even in our day." "In our day!" Alas! General Sherman has long since been gathered to his fathers, and the United States still has, in 1917, virtually the same military policy which it had in 1812. Those who do not believe this need only examine the facts. In 1812, with a population of 7,000,000 approximately, our standing army numbered 6744, and our militia about 15,000—virtually untrained. In 1916, our only thoroughly trained troops, the regular army, numbered approximately 87,000

[1] See "The Capture of Washington," by Edward D. Ingraham, Phila., 1849, for full details of the battle.

[2] Twelve killed and 40 wounded—what a defence was this of the capital of the country!

men, and our effective militia not over 100,000 at the most optimistic estimate (85,000 according to the general staff, and but 220,000 "on paper"). Yet we have a population of 100,000,000! Considering the unprecedented development of the art of war since 1812, and the enormously larger forces of trained enemies we should have to fight in case of war, the United States is certainly no better off than in 1812, and if anything not so well off.

The War of 1812 made the American blind spot chronic.

THE FLORIDA WAR

Then came the "Florida War," against Indians. The lessons of this war, *in which we never gained our object*, are summed up by General Upton as follows:

> First, that its expense was tripled, if not quadrupled, by that feature of the law of 1821 which gave the President, in times of emergency, no discretion to increase the enlisted men of the regular army. Second, that, as in every previous war, after employing for short periods of service militia and volunteers, Congress found it more humane and economical to continue hostilities with regular troops, enlisted for the period of five years. Third, that *for want of a well-defined peace organization*, a nation of 17,000,000 of people contended for *seven years* with *1200* Indian warriors, and finally closed the struggle without accomplishing the forcible emigration of the Indians, which was the original and sole cause of the war.

THE MEXICAN WAR

For the Mexican War the government had ample time to prepare. At its outbreak, an invasion of Mexico from the north under Taylor, and a march on Mexico City under Scott were contemplated. Scott's campaign, based on Vera Cruz, waited upon Taylor's accomplishments, since President Polk *could not spare enough troops* for Scott and Taylor both. General Taylor, the military representative, in the first campaign of the war, of a nation of *23,000,000* inhabitants, faced 6000 Mexicans at Palo Alto with *2200* men. Does this speak well for our military policy? Was it not a lasting shame to the American people, 23,000,000 of persons, one-tenth of which would have provided 2,300,000 fighting men, one-fortieth of which would have provided 575,000 men, *one-thousandth* of which would have provided *23,000* fighting men, that this nation should have allowed Taylor to feed into the jaws of war, against an enemy almost thrice his numbers, the "little army" of less than 2300 men? What sort of military policy was

that? How was it anything but grossly stupid, nay, cowardly, to expose this insignificant handful of regulars at Resaca de la Palma, where they barely averted disaster? Where were the militia? Where was the organization to place the militia in the field at once? Where was the organization to train soldiers, and to prepare for war in times of peace? Had we learned *nothing* by 1846?

The full significance of the orders issued to General Taylor by the Secretary of War should be understood. These orders not only contemplated the possibility of invading Mexico, but "they looked to a bold and aggressive war to be prosecuted by the same class of troops that had been called out at the beginning of the War of 1812." In plain violation of the Constitution, which authorizes the use of the militia only "to execute the laws of the nation, suppress insurrections, and repel invasions," Taylor's orders sanctioned his entrance into Mexico wth militia, and then failed to furnish the militia on time! Congress did nothing to increase the regular army. Time dragged on. Finally Taylor received a few regiments of militia. We "muddled through," *thanks only to the weakness of our enemy*, and to the *moral supremacy* which our *regulars* obtained over that enemy.

In Scott's campaign occurred that strange, unpatriotic incident of Cerro Gordo, never to be forgotten by our regular army officers, but never remembered, much less appreciated, by the American people. On the 8th of April, 1847, General Scott began his march toward Mexico City. On the 18th, at Cerro Gordo, he defeated the Mexicans. The road to the capital of the enemy's country now lay open before him. But when he sought to advance he found his army dissolved in the heart of the enemy's country. On May 4, Scott parted with *seven* of his *eleven* regiments of volunteers, numbering 4000 men, who *left him in the lurch*, and returned to the United States! They had served 12 months, and nothing could prevent them from returning to their hearthstones if they so desired, since they were called out for only 12 months. This happened when Scott was within three days march of Mexico City. He was compelled in consequence to abandon Jalapa, and, having no communication with his base of supplies, he found himself needlessly exposed to the danger of investment and capture, while the enemy, profiting by the delay, reorganized an army outnumbering Scott's by five to one. Again, despite misfortune, the Amerians avoided disaster, but only because the Mexicans failed to take

advantage of the great opportunity which our false military policy had given into their hands. The recommendations for a number of new *regular* regiments were not adopted until February 11, 1847, and their organization was thus so much delayed that they arrived only in time to participate in the brief operations about the city of Mexico.

In view of the foregoing, it is interesting to read President Polk's message to Congress, December, 1846, in which he says:

> The events of these few months afford a gratifying proof that our country can, under any emergency, confidently rely . . . . on an effective force ready at all times . . . .

What mockery of the facts! What an example, indeed, of the illusions caused by the blind spot! It was not so true that the Americans won the Mexican War, as it was that the Mexicans lost it. The main factor of our "success" was the hopeless inferiority of the enemy. From the point of view of military policy and "preparedness," we deserved to be beaten, and had we fought a stronger enemy, we should undoubtedly have met with very serious trouble.

THE CIVIL WAR

And what of our Civil War? It is the same story over again, save for Lincoln's insight and his Draft Act. At the close of the year 1860 we presented to the world the spectacle of a great nation nearly destitute of military force. Our regular army numbered only 16,367 men. The line of the army was composed of 198 companies, of which 183 were stationed on the western frontier, or were *en route* to distant posts west of the Mississippi. The remaining 15 companies were stationed along the Canadian frontier, and on the Atlantic coast from Maine to the Gulf of Mexico. The militia were scarcely available. So destitute were they of training and organization or even equipment, that with the exception of a few regiments in our large cities they did not merit the name of a military force.

When secession came, and Washington was threatened, Lincoln was forced to throw to the winds all constitutionality, and to become a dictator.

It is not possible in this article to write a history of the Civil War, but it is necessary to point out a few facts which have a direct bearing upon our military policy.

1. Testimony of General McDowell concerning the battle of Bull Run: "There was not an officer there who had ever *maneuvered troops in large bodies* . . . . . there was not one in the whole country. I wanted very much a little time; all of us wanted it. We did not have a bit of it." Again Americans depended upon militia and volunteers; again these militiamen and volunteers did not make a trained and organized army; again they met defeat, ran in a panic rout, and escaped real disaster only because the Confederates were not able to follow up their victory. "Mistaking numbers for strength, and forgetting, too, that the fame of the militia at Bunker Hill and New Orleans was acquired behind formidable intrenchments, Congress and the Cabinet, the press and the people, united in demanding that before their discharge the 75,000 three-months' men should be led into battle." In the panic that followed Bull Run, discipline and training, as usual,, gave proof of their value in the behavior of the small force of regulars engaged. The battalion of regulars, which covered the retreat and was the last to leave the field, checked the enemy's pursuit, and retired in perfect order. These regulars, the only trained troops we had at Bull Run, consisted of eight companies made up of the Second, Third, and Eighth Infantry, a battalion of marines, a small detachment from the First and Second Dragoons, and six batteries of artillery. They checked for a time the advance of the Confederate army engaged at Bull Run, which is estimated at 29,949 men. On the same basis of men actually engaged, the Union army numbered 55,000. The Union loss in killed and wounded was but 2.7 per cent of the force engaged; the same regiments, after a year of training, would have scorned to retire with a loss of less than 30 to 40 per cent, as can be proved by the casualty records later in the war. The effect of Bull Run was to give the Confederates all the advantages of the initiative, had they been able to use it; it paralyzed the Union military operations for more than six months. "Amazed and humiliated, the people bowed their heads, and confiding everything to military commanders, patiently awaited the opening of another campaign."

2. The Union was to meet more defeats during the next two years. Finally, however, this Union was preserved by the following great factors:

(a) The preponderating resources of the North in men, money, and manufactures—in other words, sheer mass and weight.

(b) Ericsson's invention of the *Monitor,* which enabled the North to hold command of the sea at a critical moment, when the ironclad *Merrimac* threatened to break the blockade maintained by Federal wooden vessels.

(c) The gradual pressure of the North's naval blockade of the Confederate States, which throttled, in course of time, all military power in the South, by preventing munitions of war and supplies from reaching the armies of Jackson and Lee. This blockade was not really complete until the capture of Fort Fisher, January 15, 1865. The bearing of the great blockade on the ultimate success of the Union armies is eloquently brought out by another date, April 9, 1865, when Lee surrendered to Grant at Appomattox. Of the fall of Fort Fisher, Scharf, the Confederate historian, writes as follows:

> The fall of Wilmington [made possible by the taking of Fort Fisher, which defended it] was the severest blow to the Confederate cause which it could receive. . . . . It was far more injurious than the capture of Charleston, and, but for the moral effect, even more hurtful than the evacuation of Richmond. With Wilmington open, the supplies that reached the Confederate armies [by means of blockade runners] would have enabled them to maintain an unequal contest *for years;* but with the fall of Fort Fisher the constant stream of supplies was effectually cut off.

(d) The Draft Act, and its effect in the final organization of the Union armies. The draft was needed not so much to force the enlistment of more men, though this was essential, as to place all the troops under the complete control of their commanders, and make possible any organization of troops which the commanders saw fit to establish. It also prevented the constant drain of men who had previously, throughout the war, left the armies when their enlistments were up. Given the most cruel schooling which troops can undergo, the teaching of raw levies by thrusting them headlong into the maw of war, even our volunteers, after two years or so, had gained by this most costly *experience.* Thousands of the dead had laid down their lives needlessly, as "surplus casualties," not warranted by the numbers that would have been lost inevitably in war from the ranks of trained men. Inevitable casualties are loss enough, but thousands more must be butchered when raw troops engage in large operations, in order that the survivors may learn to be soldiers. The war had also been prolonged by the fact that thousands of men had left the armies

" when their time was up," constantly weakening the ranks. Such wasteful inefficiency, and such draining away of strength in numbers, could not longer continue, if the Union was to conquer. The Draft Act was the fruit of bitter experience.

THE WAR WITH SPAIN

Of all our wars, the War with Spain is most likely to be misinterpreted as a triumph of American military policy (if policy it can be called), because we met with such complete success in so short a time. Yet the War with Spain, when studied in the cold light of indisputable facts, was far less an American success than it was a Spanish failure. Indeed, had Spain exerted all her skill to *lose* the war, she could hardly have lost it more surely.

When it is remembered that control of the sea was essential to victory for either side, and when Spain's superiority in the number of trained troops, in Cuba alone, is considered, the factors of our success are almost precisely the measure of Spain's mistakes or of Spain's naval unpreparedness.

These factors may be summed up as follows:

1. At the outbreak of war, the Spanish Navy was barely equal, even " on paper," to the navy of the United States. Even if it had been prepared and equally as efficient as ours, it would have started with no advantage over the American Navy in point of comparative force.

2. As a matter of fact, no such approximate equality existed. The Spanish Navy was unprepared for war. In Asiatic waters, Montojo's squadron was in every way inferior to Dewey's squadron. We may feel sure that Dewey and his men would have won against an equal or a not too superior force; we are certain that he found the enemy's ships less than 3 to 5 in ratio to his strength of armor and armament. When the defences of Manila are reckoned, we have cause to congratulate ourselves on the low state of Spanish marksmanship in the shore batteries, as well as on the daring of Dewey's entrance to a supposedly mined bay, even at midnight. The mines, however, were not there, or were useless.

Spain's European naval forces also were illusory. The *Princesa de Asturias,* at the outbreak of war, had not received her boilers and engines. The battleship *Pelayo,* and the armored cruisers *Emperador Carlos V* and *Cristobal Colon* had not received

their entire armament. Much necessary equipment, and munitions, were lacking in Cervera's squadron; Camara's squadron was not ready for sea.

3. Despite this inferiority of available force in European waters, the Spanish Minister of Marine, against the repeated pleadings of Admiral Cervera, committed the fatal strategic folly of *dividing* these forces in half, by sending Cervera's squadron to Cuba. If Americans smile at this error in sending one-half to meet the enemy's whole number, they will do well to remember that the American Atlantic fleet, at a critical moment, was itself divided, and the flying squadron kept at Hampton Roads, instead of joining Sampson at Key West; that this was done only by reason of political pressure brought to bear by the panic-stricken inhabitants along the New England coast, who were obsessed by a groundless fear of bombardment. Such bombardment would have been merely a waste of Spanish ammunition, and would have served no military purpose, until the Spaniards should gain control of the sea. Americans should also remember the basic cause of this clamor—the weakness of our coast defences.

4. Cervera entered Santiago, the most weakly defended and the weakest strategical port of Cuba, instead of entering Havana, the strongest port, surrounded by railway communications and held by the main body of the Spanish army of occupation. There is not space here to discuss his reasons for this move, but it should be stated that, under the actual circumstances, when Cervera left Curaçao, there was no American force to obstruct his entry of Cienfuegos—connected with Havana by rail—and as for Havana, Cervera had two excellent opportunities to reach that strategic heart of Cuba. That he did not know of these opportunities was fortunate for the United States.

5. The coast defences of Santiago were not worthy of the name. Hence, the guns of Cervera's ships were the mainstay of the city's artillery defence, against both sea and land attacks. While Cervera remained in Santiago harbor, no American army could do more than besiege the place; even had they taken it, it would have been untenable. But once Cervera had left, and his inferior squadron was destroyed by Sampson, the war was over, so far as the Spanish army in Cuba was concerned. They could not, hopelessly blockaded, fire one shot to any ultimate purpose.

6. The next factor is the reason why Cervera did not stay in Santiago. The reason, primarily, was this: There was no railroad from Havana to Santiago. Supplies for the isolated army of Linares at Santiago ran short; the longer Cervera's sailors consumed these supplies, the nearer was Linares' army to starvation. Another reason was the demand of the Spanish people for a sea-fight, to vindicate Spanish honor.

7. The defensive campaign of the large Spanish army in Cuba was so utterly mismanaged that the campaign was thrown away. Spain had in Cuba 196,820 officers and men, most of whom (155,302) were regulars. In the province of Santiago there were 36,582, not counting 1200 marines and sailors landed from Cervera's squadron—37,782 in all. Why this 37,782 were not heavily reinforced by General Blanco from Havana and other provinces must always remain a question difficult to answer. The lack of railroad communications is no reply, since Blanco, by prompt action, could have made up for this inconvenience; the march of Escario's column from Manzanillo to Santiago proves this and indicates as well the ineffectual resistance of the Cuban insurgents.

General Shafter naturally supposed that he would face superior forces around Santiago, in any event. He had under his command 16,887 officers and men to Linares' 37,782. Without Spanish reinforcements, here were more than odds of one to two. But Linares did his full share in throwing away the campaign, for he did not concentrate his forces. On the eve of battle, he had only 9430 troops in and about Santiago, and these were scattered into small groups, according to the fatal "trocha" system of the Spaniards. *Actually engaged,* on July 1, at San Juan Hill and San Juan Heights, there were only *1717* Spaniards to meet the onslaught of *8412* Americans, who were reinforced by the following morning to a total first line of *13,500,* when Bates' and Lawton's brigades arrived after El Caney.

Even then, the American army was in a precarious position, but the aspect of every problem was changed when Cervera made his fatal sortie, on July 3, the next day. Santiago was then doomed, whether or not an enemy's force threatened it. As Cervera said, "The war was the squadron."

Those who desire to verify these brief statements, and to study the whole campaign of Santiago de Cuba, on sea and ashore, should read the three volumes on this subject by Major Herbert H. Sargent, U. S. Army.

There are many "Lessons of the War with Spain," admirably discussed by Mahan in his book on the whole war which bears that significant title.

The war found us "with the smallest regular army, in proportion to population, that we have had at the beginning of any of our wars. It consisted of but 2143 officers and 26,040 enlisted men, or *less than four hundreths of one per cent* of our estimated population." (Captain Rhodes, U. S. Army.)

Says Sargent (Vol. I, page 105):

That the Spanish commander [Linares] should not have brought on these two battlefields [San Juan and El Caney] an aggregate force of soldiers numbering more than one to every hundred in the island, seems marvelous. That General Shafter's army should not, under so many unfavorable conditions, have been defeated, crushed, captured, or annihilated, seems hardly short of the miraculous. When it is remembered that in this campaign the United States won a glorious victory far-reaching in its results, *in spite of a lack of proper and timely preparation*, in spite of the small size of the invading army and the overwhelming numbers of the enemy, in spite of the tropical rains, the withering heat, the deadly fevers, and the desperate resistance offered by the Spaniards on the battlefield, one is almost tempted to exclaim with Bismarck that "God always looks after the fools and—and the United States." Had Shafter's army been destroyed, the United States would have had remaining only a handful of trained soldiers with which to prosecute the war in Cuba. Out of 25 regiments of infantry in the regular army, 18 had sailed in General Shafter's expedition. Out of 10 regiments of cavalry the greater part of six had sailed; and out of seven regiments of artillery, two of which had not been organized, the batteries of three had sailed. And, besides, the greater part of three regiments of regular infantry and four batteries of regular artillery had sailed for the Philippines. It can be readily seen that with the regular army eliminated, the prosecution of the campaign in Cuba to a successful conclusion would have cost the American people a frightful amount of blood and treasure. Undoubtedly the volunteers would in time have conquered the Spaniards in the island; but having been only recently organized, and having no experience in campaigning, no instruction in how to care for themselves in the tropics, no practice in target shooting, and few opportunities for acquiring proficiency in drill and military maneuvers, they would not have been in proper condition to begin a campaign until autumn, and even then they would have had to undergo many hardships, suffer great mortality, perhaps a number of defeats, in acquiring that discipline and proficiency necessary to win victories against trained troops. *In this connection it may be noted that soldiers cannot be made in a day, and that their training is more important now than ever before.* (Written in 1907.)

It is fortunate that the United States met a weak naval power in 1898. Out of 2362 pieces of coast defence ordnance "contem-

plated" in 1885, only *151* were in position on April 1, 1898. The total coast defence ammunition on hand was 12 rounds for each 8-inch gun, 20 rounds for each 10-inch gun, 15 rounds for each 12-inch gun, and 10 rounds for each mortar. This was "not enough to put in a hat." We were deficient in small arms and in smokeless powder. Of Krag-Jorgensen rifles, including those already in the hands of the regular soldiers, there were only 53,508, and 14,895 carbines. This supply, however, was barely sufficient to meet the requirements of the increased regular army. Nothing was left for the volunteers except the out-of-date Springfield rifle, of which there were 265,895. For these weapons, there was *no smokeless powder ammunition, and none was immediately available*—the government did not manufacture the article.

After these facts and many others are mentioned, there are still many Americans who point to our undeserved success in the War with Spain, and say, "We won. That is enough." Let them face, then, the most eloquent facts of all. The American people had so ordained, through their Congress, that the regular army in 1898 should be exceedingly small, and that, being small, its proportion of *medical officers* was small. There were only 192 medical officers *allowed* by Congress, and, actually, *179* commissioned and ready for service. For a *tropical* campaign, especially, but also for *any* campaign, 179 medical officers were a mere pittance. A mere pittance, too, was the hospital corps—*723* men. What was the result? The following table, nerve-racking to any person of sense and imagination, shows the result:

CASUALTIES OF THE SPANISH-AMERICAN WAR[1]

	Battle	Disease
In the Philippines	17	203
In Porto Rico	3	262
In Cuba	273	567
In camp, United States		2649

NOTE.—The mean strength of the American Army under arms during the war was 170,000. The number of admissions to hospital on September 10,1898, was over *158,000, i. e., 90* per cent of the entire force. Of these, comparatively few were regulars, despite the fact that regulars bore the brunt of the fighting. *14* men died from disease to *1* man killed in battle.

GENERAL SUMMARY

To sum up the main factors of our success in the wars of the short period of American military history, from 1776 to 1898, the

[1] From "The Valor of Ignorance," by Homer Lea.

following table will indicate the conclusions that may be formed from a study of the records; we won owing mainly to the following factors:

1. Direct assistance of a foreign power. (France, 1781.)

2. Indirect assistance, or counterpoise of a foreign power. (France, 1812-1814.)

3. Hopeless inferiority of the enemy. (Mexico, 1846-1847.)

4. Inferiority of the enemy at sea, combined with gross mismanagement of sea and land campaigns. (Spain, 1898.)

5. Influence of sea power, as distinguished from co-ordinate land power; crippling of the enemy by blockade. (Mexico, 1846-1847; Civil War, Confederacy, 1861-1865; Spanish War, Cuba, 1898.)

6. Influence of sea power in destroying the enemy's commerce, with or without command of the sea. (Revolution, 1776-1782; War of 1812, principal factor; Civil War, 1861-1865.)

7. Influence of sea power in naval battles of decisive importance. (Lake Erie, 1813, saved the great West; Lake Champlain, 1813, saved the Great Lakes and territory south of them; Manila Bay and Santiago, 1898, won control of the sea. To this should be added de Grasse's victory over Graves, in 1781, off Cape Henry, which lost to Great Britain her American colonies, by making possible the capture of Cornwallis at Yorktown.)

8. The geographical isolation of the United States. (It cannot be emphasized too strongly that this factor of our successes in the past can no longer be counted on.)

"MUDDLING THROUGH"

The phrase, "muddling through," has been used by the British to a certain extent to criticise the way in which Great Britain has conducted her wars in the past, and, in particular, to criticise the management of the present great European War by the British Government. If Englishmen choose to use this term when speaking of errors or shortcomings of their own, whether of military policy or of the conduct of campaigns, their right to do so is their own concern. The only comment of Americans, except impertinent criticism, would reasonably be this: that Great Britain alone, among all the belligerents now involved, entered the war with a military policy very similar to the American military policy. In other words, Great Britain, among the nations of Europe, is the

only nation whose military policy is based ultimately on voluntary rather than compulsory training and service.

In view of this very close similarity between British and American military policies, and, more especially, in view of the facts of American military history, it would seem evident that Americans cannot *gracefully* accuse the British of "muddling through" the present war. Whether the British have muddled through or not is another question, but the main point is that the American people have "muddled through" *all* their wars. Once they appreciate this ugly fact, they will think twice before they speak of British "muddling." They may even come to understand that the British originated this criticism about themselves, and that there is a large measure of hope for a people who see their own faults, and who have, therefore, no blind spot.

AMERICAN PACIFISTS

If the national defect of vision concerning military affairs which afflicts Americans may be termed the blind spot, the *total* defect of vision which afflicts the "pacifists" or "pacificists" may be called the purblind spot. Those who are besotted with this extraordinary mental twist have brought forward the following argument:

"Preparedness for war causes war." Stripped of non-essentials, this is their creed.

The reply to their argument is found in American history. We have never been thoroughly prepared for war except at one brief period—immediately after the Civil War. In 1865 the United States maintained in the field a *conscript* army of over 1,000,000 veterans, by all odds, at that time, *the most powerful army* in the world. In 1865, the United States maintained an immense navy, a navy mainly of ironclads, which was by all odds *the most powerful navy* in the world.

Shortly after the Civil War, the United States was involved in *two* most *serious* controversies, one with Great Britain and the other with France, the two *most powerful* of foreign powers. The United States Government *demanded* that Great Britain agree to settle the Alabama Claims. Great Britain agreed; there was no war about it. The United States Government *demanded* that France withdraw her troops from Mexico. France withdrew her troops from Mexico; there was no war about it. In other words,

at the only period of our history when we were thoroughly prepared for war, when our army and navy both were the most formidable in the world, the United States forced two great foreign nations to accede to its terms on two grave questions affecting our rights, *and entered upon the longest period of peace we have ever enjoyed,* a period of 33 years. This peace of 33 years, following our one period of preparedness, should be contrasted with the wars we have waged when we were in our "normal" state of *un*-preparedness.

THE AMERICAN ATTITUDE TOWARD COMPULSORY TRAINING

Most Americans, disagreeing with Abraham Lincoln and with the mature conclusions of Thomas Jefferson, appear to have an antipathy toward compulsory service in war on the one hand, and compulsory training in time of peace on the other. They demand protection as an inherent right, but they seem not to regard service as a duty equally inherent. They seem not to remember the existence of a statute which places every able-bodied citizen between the ages of 18 and 45 in the *unorganized* militia, subject to call by the President (Revised Statutes, Sec. 1625; Sec. 1642). Of what use is this statute, if the unorganized militia continue to be unorganized? Of what use is any force, unless it be organized, and under the complete control of the federal government?

The antipathy to universal or compulsory training is expressed in the form of three main arguments:

1. It is "undemocratic."
2. It hinders the economic development of a country.
3. It is not necessary for the United States.

1. No intelligent human being "cares a brass pin whether this thing or that be 'democratic' or not, provided it be wise, sound and useful," or imperative to safety. Aside from this consideration, the *burden of proof* that it is undemocratic falls upon those who make the assertion. For the assertion is made in the very teeth of the indisputable fact that the democracy of France, the democracy of Switzerland, and the super-democracy of Australia see to it that every able-bodied male citizen is prepared for military duty, and equipped for that duty. The assertion is also made against the views of the two greatest democrats known in American history, Lincoln and Jefferson. It is fair to ask whether or not

Jefferson was a true democrat. If he was, then it follows that compulsory training and service are democratic.

2. The second argument is that it hinders the economic development of a country. Germany's growth in business, manufactures, and trade are a sufficient answer to that argument, knocking it into a "cocked hat." But there are further answers. Would it be an economic waste to give our citizens physical training? Would it be an economic waste to give them a sundering of class distinctions? Would it be an economic waste to give them in far larger measure the sense of duty, the sense of nationality, and the sense of discipline? Would it be an economic waste to prevent war, or to prevent disaster in war? Of what moment, compared with these values, is the temporary removal of 100,000 or more men each year —different men each year—from their business pursuits? The ranks of the unemployed alone far outnumber, by many thousands, the numbers that would be "called to the colors" each year. "Called to the colors!" The phrase is worth millions in self-respect.

3. The third argument is that it is not necessary for the United States. American military history and the experiences of Great Britain in the present war are a sufficient answer to that argument. But the answers do not stop here; they are not concerned with war alone:

(a) The need of physical training for Americans of many classes, rich and poor. Of every 100 volunteers in 1898, at least 50 were found to be physically unfit for military service. Of every 50 accepted, at least 25 were unable to stand the rigors of campaigning.

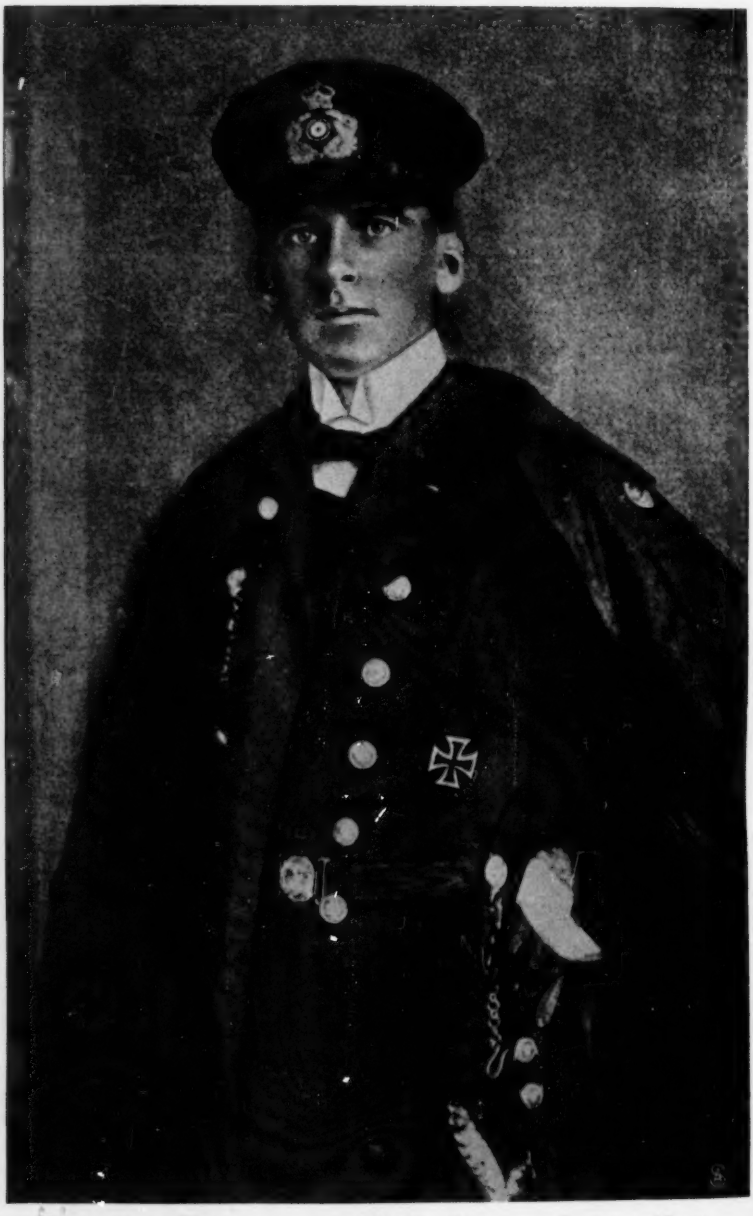
(b) The need of discipline for Americans of all classes. There are many indications that respect for authority might well be increased in the United States. Efficiency experts find this fault the hardest to remedy; it is seen in violence, arson, and murder during strikes; it is painfully noticeable in constant lynchings.

(c) The need for democratic fellowship which shall bring together all degrees of wealth and poverty, education and ignorance, class that employs and class that labors; which shall bring out of prejudice and sectional misunderstanding the East and the West, the North and the South. What else but military service would take the "man in the limousine" and the "man on the steam shovel," bring them together, and make them understand each other? (To the benefit of both.)

(d) The need of overcoming a tendency to "softness" which is becoming a grave symptom of national decadence; the need of restoring *American militancy*.

(e) The need of American thought, that Americans shall have something to worship and work for; that they shall cease to think so much of *money*, and think more of their *duties to the nation*.

The foregoing article, in so far as it assumes to be a prediction, is based upon the intelligence of the American people. No nation is more intelligent. The blind spot is the result of ignorance and prejudice in one particular field. Once let this ignorance and this prejudice be overcome by knowledge, and it is unthinkable that American intelligence will not be brought to bear upon our military and naval affairs. And, when it *is* brought to bear, *fully* and *squarely*, the United States will adopt universal compulsory military training and service, both for the army and the navy.



Lieutenant Hellmuth von Mücke, Imperial German Navy
Executive Officer S. M. S. "Emden"
Commanding Officer S. M. S. "Ayesha"

U. S. NAVAL INSTITUTE, ANNAPOLIS, MD.

AYESHA

(CONTINUED)

By LIEUTENANT HELLMUTH VON MÜCKE,
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VI. PADANG

On the morning of November 23, we "cleared" ship. We were approaching land and we decided that we were apt to find either a British or a Japanese destroyer coaling among the islands. In such case I had planned to cruise close to the unsuspecting destroyer and then, by an apparently unlucky accident, bring the ship alongside the destroyer and fire pointblank. Along the rail of the *Ayesha* we cut holes for our four guns so that we would have some sort of workable gun platforms for them and not be hindered by the miscellaneous tackle, hooks, etc. The rifles and revolvers were brought up on deck and the ammunition made ready. As the machine guns had not been used for some time we actually fired them as a trial.

About 10 o'clock in the morning, the lookout on the foremast sang out "Land ho." Owing to our defective navigational instruments we had no idea where we were and what land it was we had sighted. We were, however, pleased to be in the neighborhood of land. By and by, various islands came in sight. About 4 p. m. we had located ourselves as being off the Sea-Flower Channel, about 80 miles from Padang. We had no chart of the Sea-Flower Channel, but we did know that numerous reefs were to be expected. As the evening calm had set in, and as I did not want to navigate the unknown channel at night, we came about, and under a few sail proceeded slowly to sea. Before sun up, we came about again and headed for the channel.

We stationed lookouts in the masts to watch for and report all changes of color in the water, as these are the forewarnings

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of shoals and reefs. With all sail set, a light wind carried us into the channel without encountering any extraordinary difficulties in navigation.

Now that we were certain that our water supply would hold out until we reached Padang, I gave each man a bottle of Selters water that probably tasted better now than it would have tasted previously. Shortly before 7 o'clock, our log registered the finish of the eight hundredth mile.

During the night a squall accompanied by a rain almost like a cloud burst gave us something to do. At daylight the next morning we could clearly see over the horizon the high mountains of Sumatra. Unfortunately the wind was off shore and very light, so that we hardly made any advance. Because of the intense heat at noon, we spread the awnings.

Our tobacco gave out entirely. The men smoked tea as a substitute. The officers also tried it. "Ye Gods, to ——." The crew however, seemed to enjoy it.

In order to navigate into Padang among the many islands and reefs, we used a chart which we found in an old seamanship book dug up in the ship, and while the chart was not a marvel for accuracy and detail, still we thought we were better off than if we had not found anything. In the evening we saw a lighted beacon on an island, the existence of which we had no previous knowledge. As the night wore on we finally recognized the distant glow of the lights of Padang. Unfortunately the current was setting us further away from land instead of toward it and in the faint breeze it was impossible to tack. The next morning found us five miles behind our position of the previous evening.

The straits, in which we now were, form the highway for all ships. It was not very desirable for us to remain here very long as we had to reckon on the enemy cruisers. As a dead calm now ensued, we put both of our small boats in the water. The one with one man, the other manned by two men, were hitched up ahead of the *Ayesha,* and we endeavored by hook or by crook to put some headway on her. The work of these men, rowing in the glowing heat without any protection from the sun, was not easy. But on board ship we did not idle. The oars of the *Emden's* cutters that we had taken aboard before abandoning the two cutters were brought on deck and lashed together in pairs to increase their length. With these we attempted to row the *Ayesha* itself. Al-

though we did not convert her into an ocean greyhound, still we made some small headway.

Finally the following day a light wind sprang up that relieved us of the tedious work. In the distance, under the coast, we could see numerous steamers that were either entering or leaving Padang. One of these especially interested us as she evidently had no destination, and as it was too deep to anchor there, she must be lying to with her engines stopped. As we approached her we could make out with certainty that she was not a merchantship. She seemed to be a small man-o'-war, a gunboat or a torpedo-boat destroyer. The ship carried a flag, but due to the extreme distance we could not distinguish which flag it was.

Soon we saw the apparently stopped ship get under way. Heavy smoke clouds poured from her smoke-pipes, she turned sharply toward us and approached at high speed. Shortly after we recognized the Holland battle-flag. There was no object in lifting our "incognito," and as we were in the open ocean (outside the three-mile limit) there was no reason why we should show our flag. We therefore hastily gathered our artillery and rifles together and stowed them below deck. All hands disappeared down the large hatch which was then covered over. The wildest looking sailor and I alone remained on deck. No one could guess that we belonged to the Imperial Navy because our naval uniforms were so very disreputable looking that we would sooner have been taken for members of the battle fleet of the South Sea Island states.

Soon the torpedo-boat destroyer arrived close aboard and displayed an uncommon, if not imprudent, interest in us. At a distance of 50 meters she passed by us at very slow speed. We saw the officers gathered together on the bridge armed with spy glasses and carefully noting all the details of our ship. From the lusty discussion among the officers we could see that they were talking about us. Close under our stern the destroyer came about and all eyes were riveted on the ship's name which long ago had been covered up by the thickest possible layers of heavy white paint. Slowly the destroyer proceeded ahead. We thought we had bluffed her out but, after she had steamed about 5000 meters away, she turned around and stopped. I could not overcome the feeling that she was waiting there for us.

As the destroyer approached us the battle-flag was already cleared for hoisting. Had she wanted anything from us we would have immediately hoisted our flag thereby presenting our visiting card.

In the course of the afternoon, our convoyer, whom we recognized by her name as being the Dutch destroyer *Lynx*, disappeared in the direction of Padang. Our original expectation that she had hurried on ahead in order to have the celebration prepared, the young ladies of honor ready and the triumphal arches erected, was not borne out by later events.

In the evening we were close in to the small low coral island guarding the entrance. The lights of an outcoming steamer could be seen from the harbor. Another was proceeding in towards the harbor. As we suspected that one of these craft must be our convoyer of the afternoon we carefully darkened the *Ayesha*. We were certain it was our old friend *Lynx* when the outcoming ship engaged in Morse signals with the entering ship. In spite of our precaution she unfortunately found us. She joined us and for some time her red and green lights could be seen close under our stern. She followed at a distance of about a hundred meters. We felt quite sorry for her for having to trundle along behind the *Ayesha*, which was proceeding at the high rate of scarcely one mile per hour—she could not make more in this light breeze. No doubt her machinists tending the 10,000 H. P. engines cursed us more than once. Her presence however was, from a navigational viewpoint, very desirable, because we now had no idea of our exact location, but where the *Lynx* could float, so could we also keep from grounding. We surmised that in case we approached a shoal, she would change course in plenty of time, and then we would follow her.

On the other hand, our convoyer would not pass ahead of us and we no doubt looked like a tramp being dragged home by a policeman. As we were a man-o'-war, we hadn't the slightest idea of allowing her to lead us along in this fashion. Therefore I tried to engage her in signal conversation and, to this end, had the white globe lantern, that usually hung in the crew's quarters, brought out. We held a board in front of the lantern, and by raising and lowering this lath we managed to make the Morse signs. By means of this most wonderfully perfected signal apparatus we finally managed to get the signal across, first in English,

"Why do you follow me?" *Lynx* received the signal, made her acknowledgment, but did not answer. After about a half hour, having received no answer, we sent another Morse signal, but this time in German: "Warum folgen sie mich?" (why do you follow me?). This signal also was received. An answer did not come but shortly *Lynx* increased her speed and disappeared. The poor *Lynx* had to spend still another whole day in our neighborhood, as the wind failed again.

The next day, finding that the *Ayesha* had approached within the limit of Holland's jurisdiction, I hoisted the battle-flag and pennant. *Lynx* did not again approach any closer, but always kept several thousand meters off.

About noon our situation became rather uncomfortable in that we knew that we were in the region of reefs and even we, with our very shallow draft, could not pass over them. And we had no means of knowing the positions of the reefs. Then a small Malay sailing boat came alongside carrying a native pilot whom I employed. I had to promise him that the German consul would pay him because the total wealth of the entire ship amounted to one shilling-two pence, that we found in an abandoned purse of the previous captain, and which we appropriated as war treasure for the Imperial Treasury. In contrast to the Dutch, as we later discovered, he seemed to make a very favorable impression as a Malay pilot, as from the outset he had no doubt as to our identity as a German man-o'-war and declared himself to be perfectly satisfied to receive his pay later on from the consul.

When the pilot boat came alongside, the *Lynx* shot over toward us at the highest possible speed. As I knew not what she wanted, I again hoisted the battle-flag which I had previously hauled down. And in order to create the impression of equality, that the *Lynx* now found herself opposite an Imperial man-o'-war, I ordered the crew to give the customary honors between warships, as the *Lynx* shot by about 60 meters away. The whole crew stood at attention on deck while the officers saluted. Our greeting was returned by the *Lynx* in the same manner.

Shortly before entering port I signalled the *Lynx*, "I will send a boat." I jumped into my gala uniform, that is, my khaki brown landing-force uniform used on *Emden*, that I had saved for use against just such an emergency, and boarded her.

The captain met me at the gangway and ushered me into the mess room. I opened the conversation. We were very deeply affected by the intense interest which he had taken in us for the last few days. We were the *Emden's* landing force that were now aboard H. M. S. *Ayesha,* en route to Padang, where we intended to repair the damages caused by the sea, and to look after our sea-going needs, consisting principally in filling up our provision and water supply. I asked if there were any objections to my ship entering the harbor. The captain answered that he had received orders to accompany us. There was no objection to entering port. We would, however, not be allowed to leave again. Above all, the rules to leave again would be laid down by the civil authorities ashore; he could give no definite assurances.

I contradicted him in that, as a man-o'-war, no one had the right to prevent our leaving again, adding laughingly, "I hope we two will not have an engagement when I leave again."

As I left the destroyer I saw for the first time, from a distance, the *Ayesha* under full sail. I must say that she made an excellent and pleasing impression, even though the pennant and battle-flag of the German Empire did not match the patched and torn sails.

On nearing the harbor, a small steamer brought the harbor-master aboard who was to show us where to anchor. He wanted to anchor us well out. It was my intention, nevertheless, to anchor close aboard the steamers lying in the harbor, which I could already see flew the German and the Austrian flags. Therefore I explained to him that I did not care to anchor way out, but that I would go further into the harbor. The ship would not be sufficiently protected out there, also I had not sufficient chain to anchor in the deep water. It was unnecessary to divulge to him that the chains could be used in water six times as deep. His original objections to my requests were gradually, by means of the German language, removed. By and by, as we were passing closer in and while he was energetically demanding that we immediately anchor, it so accidentally happened that both top sails, which were giving us a good deal of headway, could not be doused. Hacking away at the pin rail, etc., continued until, as I noticed, we were close to the steamers before it was possible to anchor.

As soon as the ship lay quietly at anchor, I sent my senior officer, Lieutenant Schmidt, ashore to the government officials to report my arrival and to explain my desires. At the same time

I invited the German consul aboard. I declared that I, in accordance with the customs of International Law, except by special agreement of the port authorities, must refuse any one permission to come aboard and also to refuse to allow any one to leave the ship.

Ayesha was immediately surrounded by great numbers of boats from the German ships. There were the Lloyd liners *Kleist, Rheinland* and *Choising,* and an Austrian. They also flew flags at their mastheads, and greeted us with a "Hurrah." They threw aboard cigars, cigarettes, tobacco, clocks, clothes, story-books, letters, and, most important of all, German newspapers. Of course they were old—they were up to October 2d, while this was November 27—still most welcome. As we had heretofore read only the English newspapers which we took from the steamers captured by the *Emden,* we knew nothing of the war except the villainous reports from Reuter, as, for example, Russians before Berlin, Kaiser wounded, Crown Prince killed, suicide epidemic among German generals, revolution in Germany, the last horse is being killed, complete defeat in the West, etc.

Along with the papers we also received pictures. As I returned to my room and to the mess room after a short absence, I found that the crew had nailed on the walls pictures of the Kaiser, a picture of the commander-in-chief of the high sea fleet, the Secretary of the Navy, and other such decorations.

The Dutch rules made a lot of trouble for me at first because they refused to acknowledge the ship as a man-o'-war and wanted to treat her as a prize. I therefore protested against the Dutch ruling and stated that it was my right as captain of this ship to acknowledge no superior authority except my accountability to Germany itself. Shortly thereafter I began to receive water, provisions, ropes, sail cloth, clothes, charts and the simpler requirements, such as soap, tooth-brushes, hair-brushes, boot-blacking, etc. The consul undertook to do the providing for us. One of the Dutch administrative officials, appointed "neutrality officer," got into communication with Batavia in order to consult as to how to apply the regulations. The impression that I received from everybody was unmistakable; they endeavored by every means to hold the *Ayesha* and intern the crew. It could plainly be seen that all the authorities were disturbed; fearing the anger of Japan or England, in case we left.

The principal man upon whom the decision rested seemed to be the harbor-master, a subordinate official, also a native Belgian. As the expected orders did not arrive by afternoon, I looked for the senior Dutch commander to inform him that no further orders had been received and that, according to the provisions of International Law, I had to leave again within 24 hours. About 7 o'clock a part of the expected orders had arrived. The neutrality officer brought them off. He took special pains to persuade me to intern my officers and crew. Having previously guessed this, I had both my officers take part in the conference so that he could learn at first hand the unanimity of the opinion of all officers.

Then he described to me such parts of the instructions from Batavia as he was permitted to divulge, the impossibility of getting away, he could not give us charts nor nautical books. Also many other things could not be obtained, such as "clothes." The delivery of these necessities was refused exactly like the delivery of soap, tooth-brushes, etc., that is, for the reason that they "increased our power."

We had not cleaned our teeth for over three weeks and now we had to wait a while longer. The single comb that had formerly served us all would have to continue doing so. As the harbor-master could see that my men had torn their clothes so badly that they were almost naked and because we had no charts, there seemed to be some special reason for the non-delivery of these most necessary articles. As I persisted that I would leave, charts or no charts, I was informed that I would certainly be captured, as the entire neighborhood was dotted with numerous Japanese and English cruisers. I had by luck managed to get in, but, on leaving, I would most certainly be captured. The *Emden* had done her work well and no one would think the worse of us if we gave up this undertaking which had no hope of success. It is understood, of course, that we refused all these previous proposals.

Meantime the provisions had arrived and we made ready to up-anchor. The 10 live pigs that we had taken aboard were in the way because they insisted upon standing where the anchor chain was being brought in. At 8 o'clock anchor was up.

We saw in the Dutch papers several weeks later that the people were concerned over the subject of what we were doing and where we were going. Had they paid attention, they could have saved themselves all this concern as the answer to where we were

going rang out clear in the night in which the *Ayesha* disappeared, in the following words: "To the Rhine, to the Rhine, to the German Rhine; where we all wish to keep guard."[1]

VII. THE MEETING WITH THE "CHOISING"

Slowly the *Ayesha* proceeded to sea under light breezes from aft until about 3 o'clock in the morning when we passed beyond Dutch jurisdiction. I had just turned in when Lieutenant Schmidt, who had the watch, woke me, saying, "Captain, a German boat is coming alongside!"

As I knew we were on the high seas, I growled: "Man, quit your fooling; let me sleep!"

He reassured himself that what he had reported was indeed true and I could not resist the strenuous protests. At the same time I heard outboard the loudest noise: "There she is, there she is! We finally managed to catch her!"

Coming on deck I made out a small rowboat manned by a few men coming up out of the night and approaching us as fast as she could. A small hand-bag, followed by one other, flew on deck; the two owners close behind revealing themselves as an officer of the reserve and as a chief machinist's mate of the reserve. Both reported to me for duty. As we were outside Dutch jurisdiction, there seemed to be no reason why I should not ship them in my crew.

The hardest task was the quartering of the officer because the one bed was not quite sufficient for three. It was therefore arranged so that while one officer slept in the bed in the cabin, the second used the space under the mess table, a place that was not quite safe, while the third officer, that had the watch, sat there at his feet. With an increasingly good breeze we managed by the next evening to reach the already well-known Sea-Flower Channel. Unexpectedly we saw a large steamer heading toward us on an easterly course. As it is impossible to navigate in this unlighted strait and as the more northerly Siberut Strait, which was lighted, was naturally the customary mercantile route, the appearance of a steamer in this locality was exceedingly strange. I concluded therefore that she was a man-o'-war.

As quickly as possible we set every rag we had and steered to starboard in order to try to make the Dutch three-mile limit as

[1] Extract from the famous German song, "The Watch on the Rhine."

soon as possible. Soon the flat, palm-covered coral islands came in sight, easily recognized by the broad white stripes of the ever-roaring breakers. We ran along as closely as we could to the breakers, about a thousand meters from land. We could not anchor, due to the great depth of water, as these islands seem to rise straight up out of the sea. We were not pleased to note that our unknown steamer shortly thereafter carried on a signal conversation in secret code by searchlight with another ship, as yet unseen by us. The second "man-o'-war," of which we were now reasonably certain, soon disappeared toward the south, the first cruised back and forth in the Sea-Flower Channel. As the wind unfortunately gradually died down, our hopes of being out of sight of the cruiser by daylight were not fulfilled.

I concocted the scheme of steering among the numerous islands, tying the *Ayesha* up to a strong palm, taking down top masts and sails, so that we could not be discovered from the sea. Then I grew curious to know the character of the ship. The light breezes however spoiled this plan. We were only a few miles away from the man-o'-war as the sun rose, and hardly had the masts of the *Ayesha* appeared in the light, when the man-o'-war came about sharply and set her course for us at high speed. We were still within the three-mile limit and had no idea of leaving this protection. Luckily we discovered that this man-o'-war was neither English nor Japanese, but the Dutch flagship *The Seven Provinces*. Remaining at a great distance the armored ship followed us until we passed their limits of jurisdiction, bound westward.

We proceeded with the *Ayesha* to sea, endeavoring to make a predetermined position in the ocean. There we hoped to meet a German steamer. We could not make any definite plans with the German ships lying in Padang; but their captains knew, from the ship-to-ship conversation, what course we would take. We understood that one of the steamers would follow us out and make our further cruising an easy matter. In this way we cruised around for about three weeks. Likewise we had to endure some heavy weather which the pigs did not like, they being quartered in a pen built around the capstan up in the bow. In order to lighten the existence of these animals and help them because of the heavy rolling, we nailed strips across the deck so that they would not slide about from one side to the other.

Twice our hopes of an approaching steamer were blasted. Each time it was an English ship. One of these carried on so peculiarly and went through the most remarkable maneuvers at our approach, that we thought she must be working in conjunction with some auxiliary cruiser. Therefore we cleared ship for action. In order to give the steamer something to think about and to further our attempts at disguising ourselves as a harmless sailing ship, we made the signal: "Please give us the longitude." A signal that is more or less customary for a sailing ship to address to a steamer when they meet at sea. She gave us the required answer, but added the tormenting question: "Who are you?" We had no identification flags and we did not wish to give the ship's signal as described in the ship's papers. We therefore took four very beautiful flags, secured them together, tied a knot in each of the two upper flags so that nobody could possibly read them and hoisted the signal, half hidden by a sail. So the steamer would think that we had answered her question and she merely could not make it out. About a half hour later the steamer disappeared. Her return signal was still flying, "I can see your signal, but cannot make it out." The second English steamer was so far away that she could hardly have seen us.

The 14th of December, 1914, was a rainy, misty day with a fairly heavy sea. *Ayesha* lay to under few sails. Suddenly there appeared out of the mist a steamer with two masts and one smoke-pipe about 4000 meters on the port hand, steering an easterly course. We were steering westerly. The usual courses of merchantmen in this locality are either north or south. So if a steamer is found here steering east, it certainly must be for a special reason. And the truth of this assertion was actually proved as it turned out to be a German steamer looking for us.

We therefore steered for her, carried all possible sail, shot white and red stars that could also be seen in daylight, in order to attract the steamer's attention which we by now recognized as the Llyod liner *Choising*. Our greatest anxiety was the fear that *Choising* would not make us out in the misty weather and would pass on by. Finally, after the fourth or fifth star had been fired, we knew that she had discovered us and was heading in our direction.

We hoisted our flag and pennant on high. The steamer also hoisted the German flag. Our men climbed into the shrouds and

three cheers were exchanged between ships. My men were dressed in their normal "Paradise" boarding costumes. The *Choising* crew afterwards told us that they were very much surprised to see a sailing ship, rigging filled with naked forms, bob up out of the mist. It was impossible to get aboard *Choising* in the heavy seaway. As I had come up from the south where we had better weather, I signalled the *Choising* to follow us.

The next day the weather grew worse instead of better and during the night a heavy storm was raging. Very little sail was carried by *Ayesha*. We had to trust to the ship to take up its own position in order to ride out the blow. None of the "seas" succeeded in breaking over the *Ayesha* as she rode them like a duck. She was wet, however, both in and out, the spray continually sweeping the decks.

At daylight the *Choising*, a 1700-ton gross ship, signalled, "Because of the storm I cannot remain in the open sea." I then decided to run for the lee of the land and there attempt to effect the transfer, signalling *Choising* a new rendezvous. The two ships parted company again because I had to take a different course with the sailing ship than the steamer had to take.

The following night was the worst we experienced aboard the *Ayesha*. The storm raged the entire night. We were in the neighborhood of the islands, but we did not know our exact position. The storm and wind threatened to drive us on the reefs. The night was so pitch dark that we could see nothing. Should we, in a case like this, get too near the beach it would be the end of both ship and crew. Even the small rags, the close-reefed sails, that we still carried were entirely too much. Toward morning an exceptionally heavy squall came along. The old sails were not equal to this. One crash and then another crash, our foresail and storm jib ripped to pieces and only a few small flying rags whipped in the breeze. The flying foresail took along a third sail, the fore stay sail, so that we were now bereft of all sails up forward. Owing to the darkness and the heavy sea it was impossible to break out the reserve sails. With our after sails we had to come about and lay to, trusting to our luck to keep us out of the breakers.

As the gray dawn came on, we broke out the reserve sail and bent them on. Shortly thereafter the wind fell. We could then increase sail and head for the appointed rendezvous with the *Choising*. As we were in that neighborhood, about 9 a. m. the

Choising came in sight in the distance. In the meantime it became so calm that the *Ayesha* lost practically all headway. I therefore signalled the *Choising* to take us in tow and proceed to the lee of the next island. There we were sheltered from the wind and sea and the shifting over could be carried out.

VIII. THE "AYESHA'S" END.

While being towed by the *Choising* we began to dismantle the good old *Ayesha*. We were, unfortunately, forced to sink her as we had no harbor in which to send her. Had we taken her into a Dutch harbor, the danger remained of her being eventually returned to her former owners. Above all things, we had to prevent that. All the remaining provisions and all the weapons were gathered together on deck. We had no further use for handbags. The galleon picture of *Ayesha,* that represented the favorite wife of the prophet, was unscrewed and taken down, as was also the steering wheel, and taken along aboard the *Choising* as mementos.

Soon we got in close behind the sheltering island and the heavy swells calmed down so that it was possible to take the *Ayesha* alongside the steamer. Meantime the *Ayesha's* shrouds, that is, the ropes that support the masts, were cut and all stays, etc., were removed and destroyed. At the same time two large holes were bored through the ship in the storeroom so that she gradually began to fill.

About 4 o'clock that afternoon we turned over the *Choising's* engines and the *Ayesha* was cast adrift. It semed as if the ship did not wish to part with us. Although the *Choising* was going ahead and there were no lines attached to the *Ayesha,* she remained alongside for quite a while. As if the *Ayesha* finally realized that her strength was failing, she attempted to hold on by cutting into us abaft the gangway and tried to take a piece along with her.

I wished to remain near the *Ayesha* until she sank. So we stopped the engines and lay off about 300 to 400 meters. The loss of the heroic old ship touched our hearts. Although life aboard her was anything but pleasant we still realized that we had the *Ayesha* to thank for our freedom. For almost a month and a half she was our home, covering 1709 sea-miles under sail in that time. Standing aft along the stern rail we all watched her in her last battle with the waves. Slowly and gradually she sank

deeper and deeper. Soon the water covered the main deck. Then suddenly she gave a last gasp as the entire vessel trembled. The bow seemed to rise up out of the water for the last time and then dove down deeply. The iron ballast having shifted forward, the *Ayesha* stood up perpendicularly, rudder on high masts even with the water, and then shot like a stone down into the depths never to appear again. "Three hurrahs" were given for her over her watery grave.

This occurred at 4.58 p. m., December 16, 1914.

Aboard the *Choising,* I set a westerly course and then began the work of quartering the men. The ship's crew were already settled in a former coal bunker which had been cleaned out for this purpose. There were also sufficient covers, mattresses, etc., so that, in comparison with the *Ayesha,* we seemed to be leading a regular carousing sort of life.

My new ship was not a speedy one. On occasions she could be forced to 7½ knots, but, as we later discovered, we had to be satisfied with 4 knots. In part, this was due to poor coal. The *Choising* was one of the steamers that had previously been designated as a collier to the *Emden.* She had waited a very long time at the rendezvous for the *Emden.* As the British Admiralty was so amiable as to unselfishly anticipate the *Emden's* wishes and provide her with Welsh coal, evidently destined for Hong Kong, there arose no need for the *Emden* to take the poor Indian and Australian coal with which the *Choising* was loaded and awaiting. In the course of this waiting the *Choising* used this cargo as fuel so that we now had to use the half-burned coal that still remained on hand.

We also received some news on the *Choising.* On leaving Padang in the *Ayesha* I could not determine where to proceed first. My first plan, to proceed to Tsing tau, was dropped when I heard in Padang that it had fallen into the enemy's hands. Then I planned to intercept H. M. S. *Königsberg.* I knew only that she was supposed to be cruising in the Indian Ocean. In case I heard that she was no longer there, and I expected news on the *Choising,* I intended to head for German East Africa. We knew that an engagement had taken place there between the German colonial guard and the English. After some further reflection I gave up this scheme, as even the success of this undertaking would not produce adequate results. A force of 50 men, themselves in need

of an outfit of clothing and possessing nothing which the soldiers would need, such as a doctor, medical supplies, knowledge of the language, guides, charts, etc., it was decided that it was impossible to effect a junction with a military force of only several thousand men in a war-ridden country of the size of South East Africa. There remained no alternative but to circle Africa and head for home. However, the question of re-provisioning made this a difficult matter.

Finally we found an article in the newspapers dealing with a fight between the Turks and the English at Scheik Seid, that is near Perim (Bab-el-Mandeb—The Gate of Suffering). The notice seemed to insinuate that the war had also engulfed Turkey. And so we discovered, after some further searching in the newspapers, the report of the declaration of war between England and Turkey. Therefore Arabia seemed foremost in our minds as our proper destination. I decided to head for that place. The still feasible plan of hunting the *Königsberg* had not been abandoned until the *Choising* brought news that she had been sunk in a fight to the northward of Australia, and a second report that the *Königsberg* had been trapped in the Rufigi River and was now blockaded. In case she had been sunk there would be no further use of hunting her, and in case she really were blockaded, then she needed coal and we could not bring her any coal. The 50 men that I would add to her complement would only be 50 more eaters.

At first I lay the *Choising* on southerly courses to avoid the main steamer routes and at the same time to keep clear of the dangers of tropical cyclones. For such a cyclone the *Choising* was not constructed. In order to be sure to sight enemy ships before they saw us, we maintained a very sharp lookout. Had we met a man-o'-war the only hope of safety lay in a bluff at our enormous speed.

Choising was still painted as a Lloyd liner—black sides, white rail and spar color superstructure. Of course we could not proceed any further in this condition, so we painted her to look like a Hollander. Then we thought that in the Straits of Bab-el-Mandeb we would no doubt meet other vessels and we would have the same tormenting question asked of us, "Who are you?" Other than the English list aboard, we had no ship's registry. Finally, however, we found therein names of several steamers that were sold by English owners to foreigners. One of these was a 1700-

ton gross steamer, named *Schenir,* that had been sold to Genova. As she was, on the whole, of an appearance similar to the *Choising,* we re-christened our ship and shortly thereafter, in large white letters, the following inscription appeared on her stern: "*Schenir* —Genova."

This discovery in the English list was particularly pleasing as I was most anxious to cruise as an Italian. Because of the swaying policy of Italy I could rest assured that even an English warship would take good care not to unnecessarily inconvenience an Italian ship.

The *Schenir* out of Genova must of course fly the Italian flag which, unfortunately, was not to be found on board. Neither was there any green bunting, so we took a green window curtain and sewed a piece of white and red bunting on it. A committee, with abilities in the art line, was appointed and went to work to paint the proud Italian crest on the white field. The green color of the window curtain did not seem to be quite the proper shade. As we had a pot of yellow and a pot of blue paint aboard, we mixed them to get the correct shade of green and then hung the flag (as much as necessary of it) in the pot.

IX. From Perim to Hodeida

On January 7, 1915, we have arrived in the vicinity of Perim Straits. Nothing of importance happened at sea. Several steamers hove in sight and were safely passed. I always changed course so as to appear to be heading toward Africa. We kept on that course as long as the steamer was in sight and then went back to our proper course again.

The Christmas celebration was very quiet, but New Year's a little more lively, as we made a clean sweep of the remaining stock of the *Choising's* beer and wine.

I had intended to enter the Straits of Perim at nightfall. Again I was unfortunate because we had no charts. As in the case of entering Padang, we had also this time to draw our own charts of the Red Sea, and, naturally, we were not quite clear as to where the ships were usually expected to be found. Therefore I came to the entrance of the straits several hours too early. So I gave orders to make a big sweep and then cruise back and forth. A large steamer coming out of Dschibuti gave us a few anxious moments because we mistook it for a man-o'-war. Actually, how-

ever, it was a French mail packet. At nightfall we again headed in, and, making all possible speed, entered the straits.

I took it for granted that some kind of a watch would be maintained (by the English). The *Choising* was practically helpless before even the smallest warship. It was even impossible to run away, as any sort of steam craft could overhaul us. It seemed necessary, therefore, to once more lead my crew into action; the steamer had to be operated with this end in view.

In case of being intercepted by the enemy near the African coast I determined to run ashore and to land my crew in the ship's boats. Under those circumstances we would be landing on enemy territory and would be free and unhampered to move as we pleased. In case we were taken on the north side of the straits, I would boldly and fearlessly enter Perim harbor, or, failing that, drive the steamer into the mud and attempt to surprise and capture the telegraph station there. In order to prepare for all these emergencies the four large ship's boats of the *Choising* were swung out, lowered to the rail and secured there. In the boats we stowed water and provisions for eight weeks, arms, ammunition and our few necessities. Each officer commanded a boat and the crew were detailed to the boats. The orders for the boats, in case it became necessary, were, once and for all: "Follow the leader."

As it was now dark we again found ourselves uncertain as to our exact location. Outside we had seen a number of small islands lying across the entrance of the straits which we took to be the "Seven Brothers." Actually they were the high Arabian mountains whose peaks were visible over the horizon. This we found out later when we came in sight of the flashing light of Perim. But this light gave us a good departure for navigating further.

It goes without saying that all hands came on deck as we neared the straits. Everybody peered around very carefully, as faithful watching was our only weapon. The vessel was carefully darkened. I had the officers and petty officers make the rounds of the ship over and over again to be sure that absolutely no light was visible from the outside. The Chinese crew of the *Choising* little understood the meaning of this precaution. Whether I should or should not darken the ship was a matter of careful consideration. If I showed the usual few lights as customarily carried by merchantmen it might be possible that the police ships of the English would pass me by as not worthy of consideration.

A darkened ship, however, in case we were seen, would be sure to arouse suspicion. In the end I decided to darken her.

The Straits of Bab-el-Mandeb are very narrow. I squeezed the ship over as closely as possible to the African coast because there the horizon was darker and the land also gave a darker background to the ship. In spite of that we came close to the lighthouse of Perim, so that in the space where we turned we were constantly lighted up every second as if by a searchlight. Close to Perim we could see two English men-o'-war signalling to each other in Morse. Many curses were heaped on our engines in the next half hour because they could make only 7½ knots. Luck was with us however. The Englishmen did not see us. Perhaps also, the small patrol boats, which I expected, were not on their stations that night as we had a high wind and also a fairly high sea. After two long drawn-out hours we considered ourselves "through."

For the remainder of the trip in the Red Sea I kept off the usual steamer track, and about dark on January 8 stood in toward Hodeida.

The only book that we could use as a guide to instruct us in the Arabian customs was a "World's Trip" book belonging to the *Choising's* doctor, that was probably an excellent work on "honeymoon" trips. In this we read that Hodeida was a large commercial city and that the Hedshas Railroad was being constructed to Hodeida. As this book was several years old, and as one of my officers told of having met a French engineer several years ago who had been working on the construction of the Hodeida Railroad, we supposed that by this time the road must be about completed. In case this were not so, we would have to get all the war information we could, also some Red Sea charts, and then proceed further by water.

On nearing Hodeida, or, to be more correct, on nearing the neighborhood where Hodeida was supposed to be—because of our lack of charts we never knew where we were—we suddenly saw a long row of electric lights along the beach. Our rejoicing was great over the first signs of the beginning of civilization. That Hodeida would have electric lights was beyond our expectations.

"That seems to be quite a comfortable nest," was heard on the bridge. "Even electric lights. Then most certainly must the railroad be running. I can see us all getting aboard the special

through train at the central station tomorrow morning. In 14 days we shall be on the North Sea." The lights were assumed to be on the dock, as our "World's Trip" guide-book said there was a harbor there. On closer approach my suspicions became aroused. I soon saw that the lights were peculiarly disarranged (not symmetrical) as is seldom seen on a dock. As we were very sober, the defect must be with the dock. I stopped the ship to take a sounding in order to find out approximately how far off the beach we were. The sounding showed 40 meters. We were now only a few thousand meters from the supposed-to-be dock, but, according to the sounding, we were several miles off shore. With this knowledge, the dock lost considerable attraction for us. It must be something else. So I gave the orders "course south," and we ran away for several miles.

Then I lowered the four boats into the water, which remained ready since our passage by Perim. My crew embarked in the boats. I gave the captain of *Choising* orders to proceed out to sea, lie at a predetermined rendezvous well off the mercantile routes, to return each of the two following nights to the same place where I was leaving him and wait for me. In case I did not return, he was to proceed to Massaua. The reason I directed the steamer to return twice more was because I did not then know who controlled South Arabia. My last information was three months' old and then I merely knew that the English and Turks were at war. Of the results of this war I knew nothing. Therefore it was quite possible that Hodeida was in English hands. In that case I planned to proceed further along the next night in the *Choising*. During the day I intended to hide any place in the desert. At the same time I arranged so that in case I heard of any enemy ships that endangered the *Choising* I would let her know by signal by hand lantern: "Enemy ships in neighborhood. Proceed to Massaua." I did not wish to place the *Choising* in any danger of being recaptured before she could get started back.

The *Choising* soon disappeared into the black of the night while my small flotilla rowed in company in the direction of the beach. As in the case of all boats that have not been water-borne for some time, the *Choising's* boats leaked very badly, even though I had, several days previously, sprayed the boats inside and out, filled them half full of water and then given them a new coat of paint. Our attention was, therefore, now riveted on the necessity

of bailing out the boats. At daybreak I had my flotilla set sail, which then developed into a real race for the shore.

Our "dock" doused its lights, and at sunrise we could see its bridge, two masts and four smoke-pipes, fully armed and armored, that was named *Desaix*. It was a French armored cruiser. Another part of the dock was discovered to be the Italian ship *Juliana*. We had no intention of landing at that sort of dock so we turned toward the beach.

The greatest anxiety lay in the fact that the armored cruiser might discover us. One of my boats was Chinese rigged, the other three German rigged. Four boats, painted gray, with such unusual rigs must certainly, in this neighborhood, lead to an investigation. On nearing land I anchored and had all the boats brought alongside my boat and secured. Masts and sails were stowed away while we discussed what to do next. *Choising* had gone away. Behind us were the French armored cruiser and the Italian ship. We had no information as to Italy's position. Before us along the coast lay the breakers. We had to practically admit that this portion of Arabia must now be in French hands. To remain in the boats was impossible, as in the course of the day we should most certainly be discovered by the Frenchmen who were now still asleep. I therefore ordered "Ashore!"

Luckily we rode through the breakers with our heavily laden boats without either capsizing or swamping the boats. On the way in we met an Arabian fishing boat, and in answer to our questions, the Arab calmly informed us that Hodeida was in French hands. The error came about through the following situation: We spoke fairly good German and the Arab exercised complete mastery over the Arabian tongue, but in spite of that a satisfactory linguistic intercourse was not absolutely guaranteed. Our boats grounded just behind the breakers, but about 800 meters from the beach. All our equipment had to be carried ashore through this long stretch of knee-deep water. We hurriedly built some rafts out of masts, oars, boards, life preservers and such, and upon these we placed our munitions, machine guns, etc., in order to make the transportation ashore all the more rapidly. First we landed the machine guns.

I waded through immediately. An Arab was splashing about in the water near the shore. Making every sign of good will and friendship of which I was capable, and without weapons, I ap-

proached him in order to shake his hand. He misunderstood me however and drew back. The same thing happened to a second one who had approached in the meantime. While I was busy attending to the job of getting our equipment ashore another approached on a camel. He was in uniform. The uniform was blue and red. His head was wrapped up in a cloth (turban). Possibly he was a Frenchman. This man, to my discomfort, was armed. Approaching to within about 600 meters he remained stock-still, his gun swung clear ready for use, watching our work. Without arms, I approached him, beckoned to him, yelled at him and made signs of every kind and description to convince him that I wished to speak to him. Up to about 200 meters he allowed me to proceed, then he aimed at me. I stood still. He lowered his piece. Then I advanced several paces. He again aimed at me, I stood still and he again lowered his gun. I again advanced a few paces. He again aimed at me. I stood still—and so this irksome performance was repeated for several minutes until I had gained about 50 more meters in his direction. Then he did not again lower his piece, and as a result, I stood standing a little longer. It was impossible for him to understand my talk. He understood none of my calls. He made a sign that could not be misconstrued as anything else but for us to remain there. I most earnestly assured him that we had no intention of leaving, that we were very well off where we were, and then I returned. He climbed aboard his camel and disappeared at full speed in the direction of Hodeida whose white houses we could make out in the distance.

Now it was high time to hurry. In three or four hours we would have the entire French garrison on our necks. Therefore we worked with the greatest energy to get our gear ashore and take up the march into the desert. I intended to remain in the desert during daylight and at night send an officer into Hodeida to get the news. In case the news were bad I would remain in the desert another day and then, on the following night, intercept the *Choising* and get on my way scouting for better luck.

Just as we were about to start marching, a host of armed Bedouins, eighty, a hundred and then more, streamed over the low sand-hills of the desert. They deployed into some form of firing-line and then hid themselves behind the sand-dunes. At the same time we also formed our firing-line and cleared for action. I

waited for the first shot to come from the other side. After a few minutes about 12 of these figures, unarmed, disengaged themselves from the enemy firing-line and approached us, waving to us with their arms. I unbuckled my saber and revolver and went out to meet them.

We met in the middle between the two lines. A most violent discussion thereupon ensued. Unfortunately, however, neither understood the other. The Bedouins yelled, they gesticulated wildly as only a southerner can, and made the most remarkable signs, all without my being able to understand what they wanted. My attempts to converse with them in German, English, French or Malayan all failed. I therefore had the war flag, which we carried along, brought up to them and showed them in my most eloquent hand sign language, the black, white, red, the iron cross, the eagle. They did not understand it. With a suspicion that the natives of the coast in any locality where I might be forced to land would not recognize our war flag, I took the precaution to bring along a large merchant flag. This I then showed them. And neither did they recognize that. Then we pointed toward the French armored cruiser lying in the harbor, shook our fists at it in the wildest manner and yelled at the same time "Bum, bum bum!" But they always returned with their crazy signs. They held their hands umbrella-fashion in front of their foreheads and at the same time lustily wagged their heads from left to right, or they stroked across their faces with two fingers, either above or below. A further sign was the rubbing together of the outstretched fore-finger of each hand, meantime dumbly gaping at us. That sign we thought we understood. We thought, "there is friction between two," that is, "we are enemies." We attempted by every manner or means that we could possibly think of to make it clear to them that this was not the case. We had no need of all this explanation, because, as we later discovered, the sign did not mean "we are *enemies*," but instead it meant "we are *friends*." As a last resort we drew forth a gold piece. To this form of conversation the Arabs were very susceptible. We showed them the eagle. They of course did not understand that at all. Then we showed them the Kaiser's picture. This aroused their liveliest interest, and finally, from their side the word dribbled out—"Aleman." That was understood on our side. It could mean nothing but "German." Therefore we all yelled at the top of

our lungs, as is customary in that country: "Aleman! Aleman!" And thereby did we effect an understanding.

In reply, there arose on the side of the Arabs a lusty and enthusiastic yell. The guns were stowed away, and the whole gang surrounded us, crying and yelling and tearing around, carrying our heavy equipage, dragging our machine guns and such. With a great uproar the calvacade set out in the direction of Hodeida. One of the brothers could speak a little broken English and from him I learned that Hodeida was in Turkish hands.

Our party created much commotion. Although the desert through which we travelled seemed devoid of people, it nevertheless harbored a great number. In this country every youngster of 12 years shoulders a gun and is a soldier. Very shortly another crowd of perhaps several hundred Bedouins came up and wanted to fire on us, thinking we were enemies. Our hundred guides made energetic signs, accompanied by much yelling and howling, to make it clearly understood to their hundred other colleagues that we were friends. After they had then finished their demonstrations of joy we proceeded with 200 guides a little further until, a half hour later, 200 more came up, wished to engage us thinking we were enemies, were harrangued by our 200 guides until they also understood that we were friends.

These demonstrations were always accompanied by a considerable loss of time. And thus it became noon. We had had nothing to eat since the previous evening and in the meantime we had worked hard and had already walked a long stretch in the glowing hot sand at a time of day when one usually avoids even riding in the sun. They had eventually thoroughly grasped the fact that we were German and so they carried on like clowns; danced, sang, yelled, fired their guns and indulged in all sorts of tomfoolery.

Meanwhile the first Turkish officers came out of Hodeida, among them several who spoke German. The mutual pleasure was very great, and accompanied by some more high jinks with their rifles. The whole Turkish garrison had been drawn up against us, as they expected to have to repulse an enemy landing force. Even the guns were trained on us. Between the Turkish troops, with flags flying, we made our entry into Hodeida. The civil population stood in the streets and applauded us, and, whenever one of our marching songs that we sang ended, there followed loud yelling and applause.

My men were quartered in a barracks, quickly made ready for them. The officers were allotted a house in town previously secured for this purpose. Everything was provided for us. Looking from our house we could see the French cruiser several miles away, rocking, as in peaceful slumber, on the blue sea.

X. To Sanaa

Having seen my men quartered, I left about 5 p. m., January 9, to consult with the chief civil and military authorities in regard to my future movements. There were two ways open to reach Germany; the first, to proceed overland, and the second, to continue cruising at sea. Charts could be obtained in Hodeida. The governor of Hodeida, His Excellency, Raghib, and the colonel of the regiment, also named Raghib, sat with me in consultation that afternoon.

To my dismay I was now authoritatively informed that the railroad was not completed. Then I received information in regard to the disposition of English men-o'-war in the Red Sea. These consisted mainly of gunboats and auxiliary cruisers that could be seen daily maintaining a blockade to the northward of Hodeida. The get-a-way in the *Choising* under these circumstances offered little hope of success as we had to count on the fact that the French cruiser would certainly be informed by spies of our presence in Hodeida. She would then take up the search for our steamer, and by radio notify all the other English and French warships. It was therefore impossible for a ship of the 7½-knot *Choising* class to break through in such narrow waters as the Red Sea. The Turkish authorities however assured me that it was perfectly safe for me to march overland to the north even though it would take some time. Preparations for this march would take about 14 days, but then I could start off and reach a railroad in about two months.

As soon as this had been agreed upon I went to the roof of my house at twilight and sent the *Choising* three times the previously agreed upon signal by lantern, "Attention! Enemy warships! Proceed to Massaua immediately!" Later on we heard that the *Choising* had safely reached her destination. Although up to this time my men had remained in excellent health, they now began to show the effects of this unfavorable weather. In Hodeida the

days are glowing hot, the nights quite cool. The men slept in the Turkish barracks along with the Turkish soldiers.

In South Arabia, the houses and barracks are built very differently from those in our climate. The barracks in which my men were quartered consisted of wooden frames covered over with matting and straw. They slept close together on a long sort of divan which was upholstered with straw. The water was so unhealthy that only boiled water could be used for drinking purposes. Quinine was taken constantly to ward off malaria. In spite of these precautions cases of dysentery and malaria cropped out. I decided, therefore, to leave with my men and go up to the mountains. The city of Sanaa, principal city of Yemen, was recommended as being very healthy, especially was the water-supply said to be excellent, the climate closely resembling that of Europe. My route overland would take me via Sanaa anyway, and I could just as well await there the completion of my preparations for the march. So I decided to start the march toward Sanaa on the Kaiser's birthday.

Even way down in Hodeida the Kaiser's birthday was celebrated, the whole Turkish garrison and the total Turk-Arabian population taking part. I had meanwhile managed to fit my men out in new clothes, and even though these uniforms did not quite conform to the official uniform regulations, especially in regard to the new tropical helmet with its black-white-red cockade which previously had not been adopted by the navy, they managed to make a neat appearance and a very excellent impression. The whole garrison was drawn-up on the parade ground to celebrate. My men stood in the middle of the Turkish troops. Accompanied by the Turkish colonel I stepped out in front of the allied line, made my speech for the Kaiser in the German language, concluding with three cheers for the Kaiser, in which our Turkish Allies joined vociferously. After the Kaiser speech another speech was made, this time by the Turkish colonel, in honor of the Sultan. A public parade closed the ceremonies. With music and waving flags my men returned to their barracks for a banquet—mutton and rice. The leading authorities gave the officers a banquet—mutton and rice—in the palace of the chief mayor of Hodeida. We also exchanged the most cordial toasts. The departure toward Sanaa took place about 5 o'clock that afternoon.

In the Arabian desert it is impossible to travel except by night

as it is too hot for man and beast in the day time. Marching afoot is also impossible, and even at night one has to ride. In this way we had to proceed until we arrived at the base of the mountains.

We were provided with horses, mules and asses for the trip. Our equipage was transported by a caravan of camels. At the beginning it was rather difficult to keep my newly organized band together as many of my young bluejackets were now aboard four-legged animals for the first time in their lives. The most amusing sights began at the very outset with mounting. Some of the men used their spare time before departure to practice quick dismounting, each getting accustomed to his own saddle. Finally each managed to get on friendly terms with his own beast so that I did not have to bother about exceptional straggling any longer, and the caravan set forth, accompanied for a stretch by the Turkish officers and Turkish garrison.

Hodeida was soon left behind and we were now in the middle of the desert. As far as the eye could see was nothing but sand (low, flat sand-hills), on which grew tough grass. Roads, of course, did not exist. The only guide was the trail left in the sand by previous caravans. During the march we frequently had to stop, as naturally, every instant or two, one of my men would not be able to control his mount. The duel, which always followed, invariably ended with the throwing of the rider. Then it was necessary to recapture the beast, overjoyed with his freedom, a job which usually fell to the officers as they were the only ones who could ride. It was not a simple matter to capture the mules and asses. As one approached them they would turn around and kick out most energetically with their hind legs so that it was usually necessary to resort to tricks and ruses to capture them. In order to prevent a great loss of time an officer was detailed to ride in rear of the caravan. He gathered in all the riderless-mules and muleless-riders and formed a small rear guard. As it was a moonlight night we had no trouble in keeping to the trail. We rode the entire night, taking a few half hour pauses. During these pauses we threw ourselves down where we stood, held the bridles over our arms (or else hobbled the critters), and in this way rested our weary limbs that had grown very stiff in this tiresome riding.

The country through which we rode is not absolutely safe. Robberies and the looting of caravans are daily occurrences. This

we found out during our second night. Suddenly we saw in the moonlight across the trail about a dozen camel riders. The Turkish guides accompanying us declared them to be robbers and made their rifles ready. As the camel riders saw the strength of our caravan they dusted, disappearing among the sand-hills.

On the third day we had completed the trip across the desert and were now, approaching the mountains. These mountains seem to suddenly rise straight up out of the desert. They are about 3600 meters high. The going was now getting heavier. Over rocky hills, through flooding rivers and beds of streams we made slow headway toward the mountains. Finally we again saw trees and bushes, the vegetation becoming more luxuriant. The Arabs living here had endeavored to build their houses in high, inaccessible places. Wherever a stone projection jutted out, or wherever a small, steep mountain road made the approach difficult, there were imposing Arabian towns, each a small fortress in itself. We imagined we had been suddenly transported back to the middle ages.

The inhabitants seemed friendly and greeted us on all sides. The hours of resting were usually spent in the houses prepared in advance for the use of Turkish troops. We marched through a picturesque mountain country for a few days until we came face to face with a mountain ridge that seemed to absolutely block our way so that we knew not which way to proceed. It was a vertical, stone covered wall. A difficult serpentine path led us to the top of the spur after hours of climbing. The path was not entirely without danger. On one side the mountain rose perpendicularly; on the other side it fell perpendicularly. It was impossible, for one's peace of mind, to ride up this path. It was worn in the side of the mountains, among huge bowlders and rolling stone, by many years of use as a mule track.

The carrying capacity and strength of the pack animals was astounding. Often we came to places so dangerous that I ordered the luggage taken off them and had the animals led over by hand. By this time my men had learned to ride with considerable proficiency. We could buy eggs and milk whenever we needed them. Having carried our mess gear with us on a pack mule, I detailed an officer, accompanied by the cook and one other man, to ride on ahead because it is always easier for a small caravan to march faster than a large one. Also we found our food prepared in

advance when we arrived. This was a great pleasure to the men because the trip was so strenuous that every hour of rest was given up to heavy sleeping. Ever since we reached the mountains we rode by day and slept by night.

I had planned a longer halt at Menacha. This is a small city located at the highest elevation of the principal mountain spur. From there the road gradually descends to a large high plane on which Sanaa is built. At Menacha we were received most enthusiastically by the Turkish garrison and civil populace. Many hours before our arrival there, we were met by the commander and his officers and troops. Also a crowd, numbering in the hundreds, came out to meet us. Together with the Turkish forces we covered the last stretch of road, preceded by a huge crowd of Arabs, picturesquely clad, carrying on foolishly in their own way and dancing to the tune of their own songs.

We were received most royally in Menacha. Because of the storms, the houses here are made of stone. My men were conducted to a large barracks where the best of everything had been prepared for them. A most appetizing and sumptuous meal was awaiting them. The officers were assigned to a hotel, the only hotel in all Arabia that I have ever heard mentioned. This had the additional advantage of real beds. Up to this time we had been sleeping on so called "Cursis," that is, wooden frames covered with matting. The altitude of Menacha is about 3400 meters. We were usually above the clouds. The days were cool, the nights bitterly cold.

We remained in Manacha two days. I utilized this time, while visiting in their houses, to memorize several different Arabian expressions. The Arabian rooms are white throughout, while the window-panes are a variegated assortment of blue, yellow and red. Along the walls are low, comfortable divans and cushions. In the middle of the room, on a carpet, is a brass plate upon which is set the Nargileh (Oriental water-pipe). In accordance with the custom of the land we were always given a cup of Mocha when we visited them and in that way many very pleasant hours of smoking and gossiping were passed with our Arabian hosts.

We again took up our march from Menacha. The Turks were endeavoring to improve their highways in this place; a broad and beautiful, newly laid road, comparing favorably with any European highway, stretched for a long distance away from town.

Our journey carried us through wonderful mountain scenery. Most unusual to us was the sight of camels nibbling the tops of the low trees. Frequently we came face to face with hordes of baboons, but in spite of our attempts, we were unable to get a shot at them. The going had improved so much that we could now keep some sort of formation and even indulge in an occasional trot.

On the 7th of March we approached the principal city. From the high passes you could look down on the fertile plain with numerous villages and towns scattered here and there, among which, Sanaa, by reason of its greater size, became easily recognizable. Turkish officers came out to meet us. Outside the town the Turkish garrison was drawn up and received us with music. "Deutschland über Alles" (Germany over all) could be heard. The leading civil and military officials came out on horses and in wagons. The civil populace also rejoiced at our arrival. Even the French consul, interned there, showed himself on the balcony of his house. His British colleague also knew of our arrival which we made known to him while marching in town, but I did not meet him personally. Perhaps he was astonished to hear the strains of "The Watch on the Rhine" floating into his house way up there in the Arabian mountains.

Unfortunately, Sanaa was not as healthy as we had hoped. Because of its altitude alone, the days are bound to be extraordinarily cold. One got accustomed to the climate only after a long residence there. Several days after our arrival 80 per cent of my men were on the sick list with fever, and especially did we all have cramps in the stomach and symptoms of colds.

The city of Sanaa is very interesting. It is composed of three separate districts: the Jewish, the Arabian and the Turkish. A high limestone wall surrounds the entire town as a protection. Inside this wall each of the above-mentioned districts built its own wall making itself a small separate fort. And inside of even these, each house is its own fort. All the streets and roads are lined with high walls, something after the fashion of German trenches, so that from certain points a raking fire can be delivered the whole length of the road. This construction had been caused by the uncertainty as to who really had held the authority. The Yemen province had been known as the most restless province of Turkey and a few years back engagements between the Turks and Arabs were daily occurrences. Frequently the garrisons of

the town were besieged. Sanaa was surrendered by the Arabs only after a 10 year starving-out siege. Since then, however, peace and quiet have prevailed throughout the land. After we had been in Sanaa 14 days I found that the hardships of an overland march were so severe that I could not go ahead with my troop. The sickness of my men compelled me to remain there 14 more days without accomplishing anything. At the end of this time, although still weak, they had sufficiently recovered to enable them to mount their animals, and we started on our return trip to Hodeida in order to try once more our luck on the sea.

(TO BE CONTINUED)

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U. S. NAVAL INSTITUTE, ANNAPOLIS, MD.

THE ORIENT IN 1916: ITS INTEREST TO THE UNITED STATES

By COMMANDER S. E. MOSES, U. S. Navy

An American visiting the Orient in the opening days of 1916, and passing from Guam to the Philippines and northward along the coasts of China and Japan, might have observed conditions which are of peculiar interest to our country, as immediately affecting the distribution of our fleet, and suggesting certain pressing duties in the Orient.

Observation might suggest the advisability of some change in the employment of our cruisers in the Pacific, without in any way interfering with the plans of the battle fleet in the Atlantic. Being without any appreciable mercantile marine in Asiatic waters, the United States must look to its navy to strengthen those ties developed by foreign intercourse.

Entering Manila Bay the visitor sees signs of great development on Corregidor and other islands guarding the entrance. In the offing he may see a Japanese cruiser on patrol. Toward Cavite the great radio towers are just beginning to rise above the tree tops and the surrounding structures. Stretched along behind the Manila breakwaters, and extending beyond them, there is seen the silent fleet of interned German merchantmen, now living out the second year of this dreary existence.

In sharp contrast to the inactivity on board the German ships, and to the complete absence of seagoing American merchantmen, are the multiform evidences of enterprise in the rising sun of the Japanese mercantile marine. From the great oil-burning, turbine-driven liner lying at the dock, to the busy little coasters lightering in the bay, this energetic hand-maid of sea power is intent upon her task. This task appears to be to make a clean sweep of the trade routes of the Pacific Ocean.

It may give a clearer idea of the panorama of the Orient not to consider here our Philippine problem, but to proceed north to Hongkong.

Hongkong harbor from the Peak, after you get there, still presents its matchless view. The scene is but little altered by the war. Only, you do not get to the Peak as freely as of yore. The English " do not bother " ; but no one ever enters or leaves Hongkong without being positively identified ; and a stranger's business and his movements are accurately known to the authorities. But the harbor lacks some colors of its peace-time merchant flags, and the British naval forces now stationed here have been reduced to a minimum. Japan polices the Pacific for the Allies. The Japanese merchant flag is again conspicuously present, as the American flag is conspicuous by its absence. But the Japanese merchant flag is here seen side by side with its, now, friendly rival, the red ensign of Great Britain.

And what about the Chinaman? His junks still crowd the Lye Mun pass with their brown and bat-wing sails, forever driving on about their business in all weathers: the harbor teems with sampans, junks and launches, and the Canton steamer landings are still a forest of masts and smoke-stacks. The returning foreigner may elbow his way through the crowded Chinese sections of Hongkong and never miss a smell he used to know there. To the foreign eye, as well as to his nostril, it is still " the unchanging East." But he is only a casual and superficial observer who finds the East unchanged. All the great Oriental mass is leavened with the spirit of change. It is now the changing Yeast ; and all the world will watch the ferment, already begun ; well knowing that " not poppy nor mandragora shall ever medicine " the old Chinese Empire back to its sleep of yesterday.

To those who have had only a Bret Harte, or laundry acquaintance with the Chinese, a few notes on the geography and history of China may be of interest. The Chinese Empire comprises, or five years ago comprised, China, Manchuria, Mongolia, Eastern Turkestan and Tibet. For Americans, the geographical situation may, very roughly, be compared with that in North America in 1800: China, with its 18 provinces, corresponding to the states east of the Mississippi ; Korea to Nova Scotia ; Manchuria to Canada ; Eastern Turkestan, now called Sinkiang, to the Northwest Territory ; and Tibet corresponding to the Louisiana Purchase

country. Canton should be at New Orleans, Hongkong at Havana, Shanghai at Norfolk, Hankow at Washington and Pekin at Albany. In this far-stretched comparison, New York City would represent Tientsin, and Sandy Hook the Taku Forts. Tientsin and the Taku Forts may be new names to many readers, but one has been the sentry box, and the other the main gate through which the Western world has forced itself upon China.

And now, with China and the foreigner it is the final stage of the old story of vice, the monster of hideous mien.

The Chinese Empire, in the long and troubled course of its existence, ruled, and was ruled by, almost everybody "east of Suez."

For 40 or 50 centuries dynasty succeeded dynasty, wave after wave of humanity, rising and falling, approaching from beyond the dim horizon of the past—to break at last upon the rocks of present-day ideas. Marco Polo, the Venetian, was the first man from the West to penetrate the East. He was followed by the Portuguese navigators who rounded the Cape of Good Hope in the 16th century. After Portugal came all the nations of Europe, chiefly the English, who acquired Hongkong and became the foremost element in compelling China to accept the foreigner. This was accomplished by Lord Elgin's famous mission to China, following closely upon Commodore Perry's expedition to Japan. Those were dark days: the Crimean War, the Sepoy Mutiny, the American Civil War, and, for more than 15 years, the dreadful Taiping Rebellion which is said to have cost China the lives of 20,000,000 people, and to have utterly impoverished 200,000,000 more.

With the confirmation of the Elgin treaty and the opening of other ports, Canton lost her unique position.

One of the things which England did at Hongkong was to educate a young man from Canton named Sun Yat Sen.

Canton, though less in the foreign eye than Shanghai or Pekin, is perhaps the one most important consideration affecting the future of the Orient. Canton is famed for its "ginger." Her people have an inborn genius for political liberty. "Everything new originates in Canton," say the Chinese; and Canton itself is comparatively modern, as things go in China. The city was founded only a few centuries before the Christian era. For many years Canton was the only open port of the Chinese Empire, and

therein lies the source of its spirit. Cantonese, themselves, were among the exports and imports. Returning, they brought back with them, into the age-long isolation and exclusion of China, new ideas and ideals, and golden stories of wider fields of opportunity. They showed the gold. People touched it, and desire for similar opportunity in China was born, and continued to grow; silently, for a time, but surely, until it took root, and became indigenous to the soil and spread northward.

The cold, harsh atmosphere of the north, which included the chill atmosphere of official displeasure and the hot wrath which struck from the throne at the champions of reform, might cut down for a season the rising growth of new ideals, but were powerless to destroy them. The roots spread steadily beneath the surface.

With the opening of the treaty ports, there was a manifold and manifest repetition of what had occurred at Canton. Large numbers of the Chinese, themselves, were among the exports and imports. The most important items of commerce, not listed, were new ideas.

In the 90's China, utterly unprepared, went to war with Japan over Korea, and received a defeat which was felt to be a national humiliation. Japan, Russia, England, Germany and France were increasing their hold upon China. In 1900 the Boxers rose to expel all foreigners and fell before the expeditionary forces of the Allies sent to quell the uprising. Pekin was sacked. China was even more humiliated than hurt.

The legs of the Manchu dynasty grew weak with age and idleness. The foundation of the Dragon Throne had become irreparably rotten and corrupt. Young China, returning, saw the truth and was ashamed. Then he became resolute for reform.

The old empress dowager attempted to open the way for reforms that might stay the hand of fate, but with her death in 1908 reaction set in, and the doom of the Chinese Empire was sealed.

The last months of 1911 saw the Manchu dynasty fall, with the abdication of the young dowager empress and infant emperor of China. It was again the unexpected which happened when the long looked for revolution suddenly ushered in the white elephant of the Republic, and gave it to Dr. Sun Yat Sen as provisional president. On January 1, 1912, Dr. Sun Yat Sen transferred the animal, which he liked but could not manage, to the care of China's

strong man, His Excellency General Yuan Shih-K'ai, first President; with General Li-Yuan-Hung as Vice-President of the Republic of China. These two men have retained control of the situation ever since.

The Republic has never been made secure, which is not to be wondered at. Indeed it would have been nothing short of miraculous, in the short space of four years, for a small group of foresters, however skillful, to have uprooted the human redwood forests of monarchical China and to have made them take root and flourish in the new soil and atmosphere of Republicanism.

The truth is that the Republic was only declared to exist, and has existed largely in theory only. It has never yet been actually established. However widely prophets and critics may have disagreed as to the rights and wrongs of China, they have unanimously agreed upon three points: that the defunct monarchy was hopelessly corrupt and incompetent; that a change had to come; and, finally, that the masses of the Chinese people will ultimately decide upon and determine for themselves the fundamental features of the new form of government. Strong character and individual opinion will doubtless stamp their impress upon the various features of the new structure of government now destined to arise upon the ruins of the old order.

It is here that external influence will enter. It is here that foreign interests, legitimate and of broad design, and also all the selfish and narrow interests of policy and politics, will seek for points of vantage, profit and power. The foreign interests here involved include almost every nation in the world; and the strongest interest in the future of China is felt by some of the strongest nations.

The Chinese people, the masses, will eventually render that decision which will be final and decisive of their own fate. For this reason it is imperative to know them and to be known by them. Throughout the world, in matters great and small, the real and practical importance of good will, confidence and mutual understanding is recognized. In no place is this intangible force, "light as air and strong as iron," so intuitively felt, so quickly disseminated and so promptly applied to practical purposes as in China. See how they use the boycott.

It behooves Americans, then, to get into closer touch with China and Chinese people, and to press the advantage which now offers at

every point, from Pekin to Canton. Not only at Shanghai and on the great river, but in every port, the American flag should make its presence felt and understood. And the character of the impression made should be carefully considered. A few of our gunboats seen on Chinese rivers are perhaps as good as any of their kind. But others are obsolete, Spanish-built, antiquated, un-military looking little craft which should promptly be replaced and re-enforced by modern gunboats. They too closely resemble the familiar Chinese mandarin gunboat to command the desired respect. The United States Navy should have more cruisers on and off the coast of China. Their presence should be known and respected throughout the Orient. Now is the time. Opportunity knocks.

Several geographical features bearing upon the political future of China should be borne in mind.

Shanghai, near the east coast, lies approximately midway, by sea, between Pekin and Canton. It is, roughly, 600 miles south of Pekin and 600 miles north of Canton.

Shanghai also lies about 600 miles to the eastward, by the Yangtse River, from the central city of Hankow—really a triple city, Hankow-Wuchang-Hanyang. This is the solar plexus of the Chinese revolution. The capital letter T approximately diagrams the relative locations of the focal cities. The stem of the T rests on Shanghai, with Canton at the end of the left arm, and Pekin at the end of the right arm. Where the T is crossed, the Yangtse River cuts the Canton-Pekin highway, and at that point, on both sides of the great river, is the triple city, Hankow-Wuchang-Hanyang.

Coming up to Shanghai in the early days of 1916 the returning visitor may see on every hand those well-known signs which mark this city as the main sea-gate of China, and one of the great emporiums of the world.

Here, as at Manila, is a neutral port; and again are seen the interned German merchant ships, and Austrian ships also. But, in addition to these, there are interned at Shanghai the river gunboats of some of the belligerent powers now involved in the great European war. And here, at last, the American flag is seen afloat over its men-of-war. Frequently at Shanghai and Wusung and up the great Yangtse River, and occasionally at Nagasaki or Chefoo, a ship of the United States Navy may be seen.

The presence of an American ship in Oriental waters in these days attracts more attention than before. There are two reasons for this. In the first place, there is an absence of other men-of-war, and in the second, though more important place, the European war has aroused a new and world-wide interest in ships and maritime power.

Those who now govern China must recognize the controlling features of the various influences of sea power upon the immediate destinies of the new Republic, or whatever government follows it. The part which the Chinese Navy played in the revolution and in upholding the Republic is little known. Lying at the Kiangnan dockyard, in the suburbs of Shanghai, the Chinese men-of-war have held the city under their guns for the four years of the Republic, and, of perhaps greater importance, they have commanded the great Kiangnan arsenal, which adjoins the dockyard. This arsenal not only manufactures ordnance for the Chinese Army, but its godowns contain stores of arms and ammunition.

Here, until November, 1915, were the headquarters of Admiral Tseng Ju Cheng, who was also a general, and held civil rank.

Admiral Tseng commanded the arsenal and was military governor of Shanghai.

He was senior to the commander-in-chief of the Chinese Navy, Admiral Li, whose quarters in the Kiangnan dockyard adjoined the headquarters of Admiral Tseng; an arrangement of especial significance in view of the doubtful loyalty of the Chinese Navy, and of the fact that Admiral Tseng, as military governor, was also public executioner, with full powers, and no questions asked.

He occupied a strong strategic position. But the bomb thrower was abroad in the land, and at Kyoto on the day of the coronation of the Emperor of Japan, a Kokusai press dispatch from Shanghai announced that Admiral Tseng Ju Cheng had been "bombed with 16 bullets." And this outrage occurred in broad daylight, in the open street, in the most public part of Shanghai; just in front of the Astor Hotel.

This assassination was all the more significant of the instability of affairs in China because it occurred, not in the native city or in the French concession, where sources of trouble were suspected, but in the American settlement, and almost in the shadow of the British consulate. It was felt that here, if anywhere in the ports of China, life, law and order would be respected.

The murdered governor, Admiral Tseng, was said to have been a right-hand man to Yuan Shih-K'ai.

There had been, almost from the overthrow of the monarchy, persistent agitation to re-establish it.

As the fourth year of the Republic drew to its close, public opinion was strongly inclined to the belief that Yuan Shih-K'ai intended to make himself emperor or king.

Shanghai remained the republican stronghold, warmly supported by Canton and the sentiment of the southern provinces.

The assassination of Admiral Tseng was shortly followed by an attempt to capture the ships of the Chinese Navy lying at the Kiangnan dockyard. A cruiser was actually boarded and captured, and a few shots were fired from its guns. But this disorder was suppressed.

It must be realized, however, that where assassination and uprisings of this nature can occur, conditions can be likened only to a smoldering volcano.

When, toward the close of 1915, it seemed assured that Yuan Shih-K'ai would endeavor to re-establish a monarchy of some kind, the Japanese diplomatic representative at Pekin, although junior to his colleagues, is reported to have gone with them to Yuan Shih-K'ai and to have offered some friendly advice about changing the form of government. This advice was the same as that offered by Punch to a young couple about to get married: "Don't." But Yuan did. He was already married, several times over, and had 14 children. Yuan Shai Kai and Japan have hated each other for a generation. He has announced that he will assume the throne of China. He has not yet done so, and press dispatches, possibly reflecting accurately the state of Yuan's mind and also the state of China, seem a little confused as to when the change will come, and what it will be when it does come.

China is, politically, like a great sponge-fed goat. She has sipped at the waters of Western wisdom and her thirst increases. It is only reasonable to expect that all lovers of goat's flesh, as well as those who might make use of small pieces of hide, or the hair, or the hoof, or the horns, should assemble in the vicinity and await the explosion.

The end of the European war will leave at large the greatest army of soldiers of fortune that the world has ever seen. The bargain counters of Europe will be piled with arms and ammuni-

tion, to be sold at any price they will bring, for cash or credit, with or without human firing attachments. The sale will be competitive. The Chinaman has been known to be a far-sighted, as well as an astute, trader. It may be that the war will close in Europe, only to open in Asia, with a readjustment of national alliances hardly to be guessed at.

Between us and the dark days which may be ahead, the coast to-day is clear, and well-defined channels lead in many directions to the points where American ships should be, but are not. Each day that is lost may lose great opportunities. The chances missed may never come again. Whatever voice American diplomacy may wish to have in shaping the future of the Orient will be strengthened in proportion to the respect the Chinese people feel for the power behind the spoken word.

This is the often repeated history of foreign intercourse with China. The masses of China believe what they see, rather than what they hear.

At Shanghai, as at Hongkong and Manila, the Japanese merchant ships are everywhere in evidence: great Dalny liners connect with the trans-Siberian railway, the trans-Pacific freight and passenger ships, and the shuttle boats ceaselessly ply back and forth between Japan and China, "and weave them main to main." From here to the Inland Sea, and from busy Shimonoseki to Yokohama, the sun-flag rarely fails to greet the sun—impressive evidence of the swift rise of the new sea power. For sea power does not exist in navies alone.

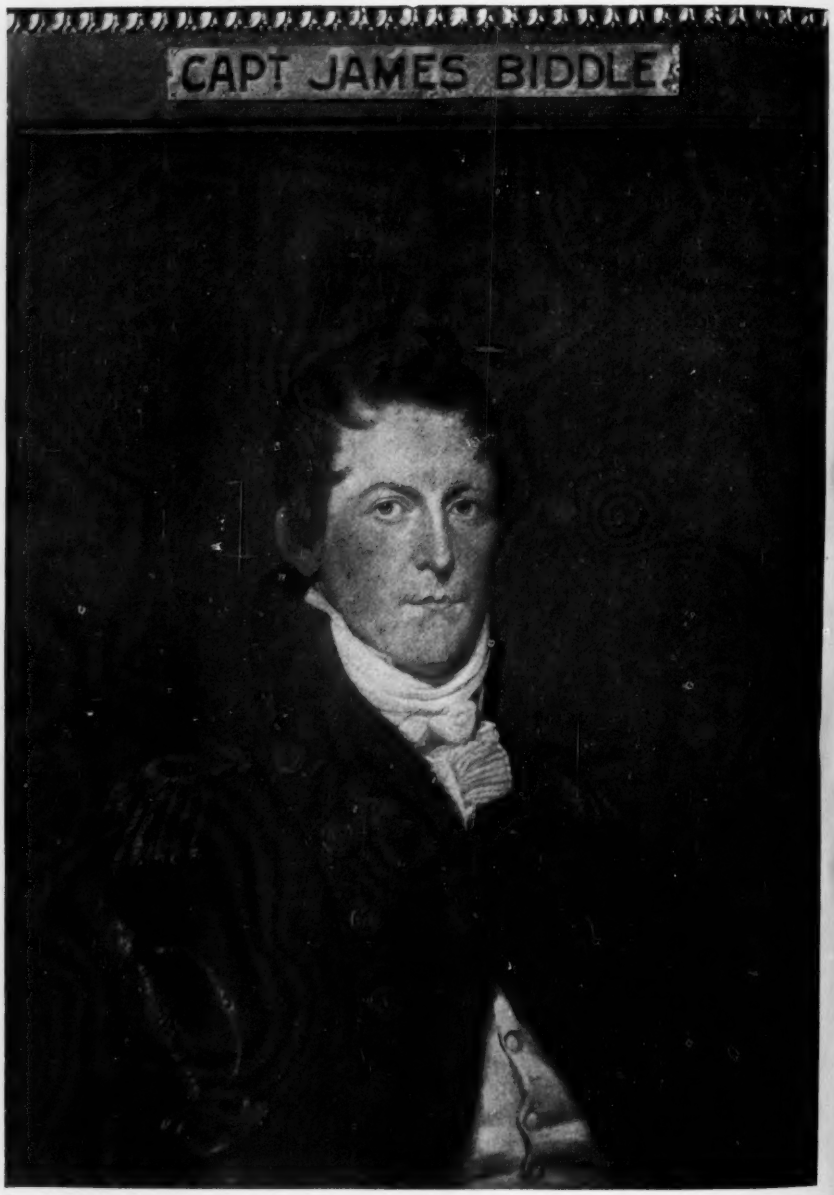
It is said that the rapidly growing shipyards of Japan are already booked with orders to their full output capacity for the next 10 years or more.

All signs point to the Orient as the focus of the world's interest in the near future, even before the fires of war in Europe shall have cooled. It is a subject upon which Americans should read and reflect.

These notes are the result of three visits to the Philippines, China and Japan—the third visit just completed.

It was intended to touch upon some other points of especial interest to Americans in matters relating to the Philippines and to Japan; but the compelling interest in the Orient to-day is China and its immediate future.

In addition to older standard books, acknowledgment is made, with thanks, to the authors, or editors, of the Mannix edition of Li Hung Chang's Memoirs; Bland's "Recent Events and Present Policies in China"; "The Problem of Asia," by Mahan; "Intellectual and Political Currents in The Far East," by Reinsch; "The Re-Shaping of the Far East," by B. L. P. Weale; "Old Forces in New China," by George Lanning; "Outlines of Chinese History," by Li Ung Bing; and Carl Crow's "Handbook for China."


CAPT JAMES BIDDLE

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U. S. NAVAL INSTITUTE, ANNAPOLIS, MD.

OUR NAVY AND THE WEST INDIAN PIRATES

(CONTINUED)

A DOCUMENTARY HISTORY

By REAR ADMIRAL CASPAR F. GOODRICH, U. S. Navy

1821-1822

The business community, too frequently inert, took notice of the menace to our shipping, especially in the West Indies, and began to exert pressure on our legislators. A memorial, signed by prominent men of the State of Massachusetts, protesting against the prevalence of privateering on the high seas, and asking that Congress take such measures as seemed advisable to bring about the reform of this practice, was written to the Senate and House of Representatives of the United States, and was referred to the Committee on Commerce, under date of January 26, 1821.[1]

It may be supposed that as a result of such communications to the government, "a number of small vessels were accordingly dispatched to the West Indies, but were so hampered by their instructions that they were obliged to surrender all pirates captured in Spanish American waters to the Cuban authorities for punishment, who, after a mockery of a trial, often released the wretches, to commence anew their depredations."[2]

The events of the early months of this year have left but scanty traces on the record. It is only in July that we get a glimpse of naval activity through Commodore Patterson's report of the 16th to the Secretary of the Navy, that the *Lynx* and the *Nonsuch* were on a cruise in the Gulf of Mexico, "scouring our own coast from the Perdito to Sabine and generally run along the shores of Florida, then touch at Havana and Jamaica, &c., and return to

[1] NAV, No. 76, 3 *et seq.*
[2] CDP, 271.

the Balize, occasionally extending their cruise into the Bay of Campeachy and along the coast of Yuccatan." [3]

The *Bull Dog* was then in Lake Borgne and working through the islands between Mobile and the Mississippi River. A division of small boats was at Barataria.[3]

This disposition of Commodore Patterson's force suggests that it was more largely employed against slavers and smugglers than against pirates, and indeed its nature indicates a regrettable lack of appreciation at Washington of the extent to which piracy in adjacent waters had increased. The schooners *Lynx,* Lieutenant J. R. Madison, and *Nonsuch,* Lieutenant Daniel Turner, were the only efficient craft under his command for protecting our commerce on the high seas and of these, the former disappeared during the summer, her loss being attributed to a severe hurricane.

The majority of the cases of piracy are but briefly noticed in contemporaneous newspapers. It is therefore refreshing to get such fuller and official reports as this letter contains:

NEW ORLEANS, Sept. 10th, 1821.

Sir:

I have the honor to report that two acts of Piracy have very lately been committed on Vessels bound to this place, one on the Packet Ship *Orleans* of Philadelphia on the 19th ultimo, off the Island of Abaco, by a corvette of 14 guns, which detained the *Orleans* two days, plundered her of Goods to a large amount, said to be $60,000. and threatened to put the Capt. and crew to Death, which 'tis said they escaped only from the wind increasing & which compelled the Pirates to leave her and take the necessary measures of safety for their own Vessel.

The other act was committed on the American Brig *Clarissa Ann* from Greenock, bound to this place, on the 28th ulto., off Cape Antonio, by a small schooner manned by 12 or 14 Spaniards, who plundered her of Goods to the amt. of $20,000., besides the Capt. and Crew of their clothing and every valuable they could find, the Pirates behaving in the most infamous manner and threatening them with Death. . . .

I have the honor to be,
With Great Respect,
Your obt. Servt.,
DANL. T. PATTERSON.

Hon. Smith Thompson,
Secretary of the Navy,
Washington.[4]

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[3] C. L., 1821, Vol. 3, No. 46.
[4] C. L., 1821, Vol. 4, No. 77.

The boldness of the pirates is exemplified in the plundering of the schooner *Union* a little to the south of Cape Henry.[5] A week later, we get this outburst:

Piracies of the most horrid description, except that we have not heard of so many murders as might be expected, are numerous off the coast of Cuba, &c. We some times see accounts of two or three vessels being plundered as it were in a day. It appears that several of the U. S. vessels are about to sail in quest of these freebooters—the fag end of what was recently called privateering.[6]

As before, seizures increased in numbers as the sun travelled south.

August 31—The schooner *Nancy Eleanor,* Bizeul, of Charleston, was plundered of part of her cargo, off Trinidad; after which she was ransomed for $4000.[7]

The schooner *Bold Commander,* Bogart, was robbed off Cape Cruz, and permitted to proceed, and on the 23rd of September, off the Isle of Pines, was again captured by an open boat and robbed of everything on board—after which the pirates freighted her with thirteen prisoners, and gave them the vessel.[7]

October 11—The brig *Melita,* Pastorius, off Cape St. Antonio, was taken and plundered by a pirate; a boy and one of the hands hung; the captain stabbed in several places, and all the crew abused; after which they were suffered to proceed.[8]

October 11—The schooner *Leo,* Chace, was boarded near the Hole-in-the-wall, and plundered of sundry articles.[8]

October 15—The brig *Aristides,* of Boston, Capt. Couthouy, was taken and destroyed off Cape St. Antonio—the crew spared.[8]

October 16—The ship *Lucies,* Missroon, was taken by the pirates, but rescued by the U. S. brig *Enterprise.*[8]

The following particulars subsequent to the rescue of the ship *Lucies* by the *Enterprise* were afforded by the "U. S. schooner *Tartar,* Lieut. Crowley," on its arrival at Pensacola, several months later:

Captain Kearney having rescued the ship *Lucies* from the pirates, put a midshipman and some men on board, and ordered her to the Havana. On his arrival at Havana he found the *Lucies* in charge of a guard of Spanish soldiers, under the orders of the captain-general, claiming her as under his jurisdiction. Capt. K. repossessed himself of the ship, denying the right of the captain-general, and declaring that he would take her to the

[5] N, September 15, 1821.
[6] N, September 22, 1821.
[7] MWHP.
[8] MWHP.

United States for adjudication. Whilst making his arrangements for this purpose, he was waited on by an officer of the Government, and told that he would not be suffered to leave the port with the *Lucies*, and, if he persisted, his vessel would be sunk. This threat did not alter his determination, and shortly afterwards he made sail with his fleet, the *Enterprize*, *Lucies* and piratical vessels, resolved to carry his point at all hazards. He proceeded until he was nearly abreast of the Moro, when he was overtaken by another message from the captain-general, in which the captain-general offered to make himself personally responsible for the amount of salvage due the *Enterprize*, pledging himself to this effect. This was done with a view to conciliate, and capt. K. actuated by the same motives, yielded to the compromise, and gave up the *Lucies*.[9]

October 18—The *Charles Sidney*, Haskell, was robbed of a number of articles.[10]

November 15—The schooner *Industry*, Llufrio, of Baltimore, was plundered off Cape Nicholas-mole. The mate was three times hung by the neck.[10]

November 27—The brig *William Henry*, of Baltimore, was robbed in the Mona passage. Escaped, leaving one man with the pirates.[10]

December 9—The schooner *Camden*, of Camden, Maine, boarded and robbed off Cape St. Antonio by a piratical schooner and a boat. Took vessel inshore and destroyed her.[11]

December 9—The schooner *Peacock*, Harraden, of Boston, was boarded near Havana, from a piratical schooner, and robbed of many articles.[12]

December 12—The schr. *Emily*, Robbins, of Middletown, was boarded near Matanzas by a piratical schooner. After abusing the crew, hanging Capt. R. twice by the neck, and taking a quantity of plunder, they left the *Emily* to pursue her course.[13]

December 16—The ship *Liverpool Packet*, Bicker, of Portsmouth, N. H., was boarded off Cape St. Antonio by two schooners and two barges, who robbed her of everything. The crew were beaten in a shocking manner and the mate hung until he was thought to be dead, but has since recovered. Vessel given up.[12] [13]

December 16—The schooner *Planet*, Denison, was boarded off Cape St. Antonio by two schooners who robbed her of many articles. Vessel given up.[12]

A few other cases of piracy during this year are those of the *John*, *Milo*, *Collector* and *Evergreen*, mentioned in the introductory chapter.

[9] N, January 5, 1822; also, LE; C; H; S. O. (O.L.), Vol. LXIV, Nos. 58½, 68, 75½.

[10] MWHP.

[11] PG, February 2 and 7, 1822.

[12] MWHP.

[13] Also, "The Pirates Own Book," 334.

Such happenings could not fail to bring forth protests, and under the caption Piracy, we read:

> The present time seems to be entitled to the appellation of the age of piracy—caused chiefly by the spewings out of the late wars, and, especially so of the contests between Spain and her late "American colonies." The coasting trade of the United States is almost daily insulted—the voyage to and from New Orleans cannot be made in safety; and indeed, we are deficient in present means to protect it and bring the marauders to justice; for we have few vessels fitted for the purpose, notwithstanding the weight of our naval establishment. We want more strong, but "flying" schooners, to scour the coasts, and cause the property and persons of our citizens to be respected. The instances that reach us are of the most provoking description, and we can hardly open a newspaper without seeing "piracy" or "more piracy" staring us in the face. . . .
>
> To recapitulate all the cases of piracy that have occurred in our neighborhood, and give a list of all the vessels plundered within the last two months, would perhaps, fill a whole page! They are well known at "headquarters." [14]

The gentleman rover who plundered the ship *Orleans,* already referred to in Patterson's communication of September 10, seems not to have been lacking in humor.

> The ship *Orleans* of Philadelphia from New Orleans, was robbed off Cape Antonio, by a piratical corvette of 14 guns, of goods to the value of $40,000. The marauders appeared to be Spaniards. After robbing the ship, the chief of the pirates pencilled in the French language, and delivered or sent to a United States' officer, a passenger on board the *Orleans,* the following note, which is correctly translated into English:
>
> "AT SEA AND IN GOOD LUCK.
>
> "Sir—Between buccaneers, no ceremony; I take your dry goods, and, in return, I send you pimento; therefore we are now even: I entertain no resentment.
>
> "Bid good day to the officer of the United States, and tell him that I appreciate the energy with which he has spoken of me and my companions in arms. Nothing can intimidate us; we run the same fortune, and our maxim is, 'that the goods of this world belong to the brave and valiant.'
>
> "The occupation of the Floridas is a pledge that the course I follow, is conformable to the policy pursued by the United States.
>
> (Signed) RICHARD COEUR DE LION." [15]

Compared with the list of vessels seized or plundered by the pirates, that of the navy's successes, in its operations against them, is regrettably small. So far as can be determined, the 18-gun

[14] N, October 20, 1821.
[15] N, October 20, 1821.

sloop of war *Hornet,* Master-Commandant Robert Henley; the 12-gun brig *Enterprise,* Lieutenant Lawrence Kearney; the 12-gun brig *Spark;* the 12-gun schooner *Shark;* the 12-gun schooner *Porpoise,* Lieutenant James Ramage; the 12-gun schooner *Grampus,* Lieutenant Francis Hoyt Gregory; and three gunboats were its sole representatives in West Indian waters outside of Commodore Patterson's command, and these were not sent there until the fall of 1821.[16] They appear to have acted independently of each other. A brief summary of the results achieved is officially given:

STATEMENT OF CAPTURES OF PIRATICAL VESSELS AND BOATS MADE BY VESSELS OF THE UNITED STATES NAVY IN THE WEST INDIES

Four piratical schooners, of about 40 tons each, and one sloop, of 25 tons, in all carrying about 100 men, captured by Lieut. Com't L. Kearny, in the United States brig *Enterprize,* at Cape Antonio, Island of Cuba, Oct. 16th, 1821, in the act of robbing the American ship *Lucies,* American brig *Aristides,* and English brig *Larch;* burnt two of the piratical schooners; the other two, and the sloop, were sent into Charleston, S. C. and condemned.

Schooner *Moscow,* captured by Capt. Robert Henley, in the sloop of war *Hornet,* Oct. 29th, 1821, sent into Norfolk.[17]

A boat laden with goods, captured by Lt. Commandent Ramage, off Cape Antonio, Nov. 8th, 1821; took out the goods, and destroyed the boat; crew escaped.[18]

A schooner of about 35 tons, captured by Lieut. Commandant Kearny, 21st Dec. 1821; crew, about 25, escaped.[19]

The first exploit of those just enumerated was accomplished by the boats from the *Enterprise,* and an interesting account was published within a short time. The pirate chief was the "notorious Gibbs."

The Pirates, even yet, appear to be very busy, and generally successful. though it seems that two or three of them have been caught and hung at Matanzas. We notice the robbery of several vessels, under the most aggravating circumstances. These wretches most probably have a residence in Cuba, and, as the people and government of that island are deeply interested in stopping their ravages, there is reason to hope that, with the aid of our small vessels, this much desired purpose may be effected. It is reported that there are *eleven* piratical vessels cruising between Cape Maize and St. Jago.

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[16] M, II, 27.

[17] Also, E, 76; H, 124.

[18] Also, Log of the *Porpoise.*

[19] ASP, I, 804; also, NEE, 308; S. O. (M. L.), Vol. CXVI, No. 81; 17C-2S, Sen. Doc. No. 1, 56; E, 76; CHN, III, 21; H, 124; LE, 22; M, II, 27.

The ink with which the preceding was written was hardly dry, before we met with the following gratifying intelligence from Havana, via Charleston—the whole so stated that its truth seems undoubted. The ship *Lucies*, for Charleston from Liverpool, arrived at Havana on the 24th ult. in charge of a midshipman belonging to the U. S. brig *Enterprize*,[20] captain Kearney. On the 16th of that month, this ship was taken possession of by four piratical vessels, off Cape Antonio (Cuba) who, after much abusing the crew, brought her to anchor in four fathoms water, where they had also in possession the brig *Aristides*, of Boston.—While they were engaged in plundering the ship, a brig and schooner hove in sight, which proved to be the U. S. brig *Enterprize*, and the schooner *La Centilla*, under the Colombian flag, commanded by Charles C. Hopner, both of whom, after due observation, opened fire on the piratical vessels. These run for it; but five boats were manned from the *Enterprize*, and the result was that three schooners and one sloop were captured, and another schooner (fully laden with plundered dry goods) was so closely pressed, that the wretches set fire to and abandoned her—she was consumed, but the pirates reached the shore. Captain Kearney also re-captured the British brig *Larch*. The prizes and the pirates taken (who do not exceed 40) were ordered for Charleston, to await the awful award of their crimes. It is probable that this fortunate and well managed affair will check, if it does not break up, piracy in this quarter, and will probably lead to a discovery of who they are that fit out and encourage these marauders, to whom the government of Cuba, we have no doubt, will render *justice*. We say—LET IT BE DONE.

It seems that the pirates, when the *Enterprize* approached them first, had the audacity to hoist the *red flag*. Captain Hopner seems to deserve much credit for the aid which he rendered on this occasion. To captain *Kearney* many thanks are justly due. Captain Hopner was in want of some supplies, which the captain of the *Lucies* was able and gratefully willing to furnish—but he would not accept them on any other terms than paying more than was asked for them.

Another, and what is apparently a later account, says, that only one of the piratical vessels was taken—yet the fact of the re-capture of the *Lucies*, &c. is confirmed. The robbers escaped to and landed on Cape Antonio.[21]

A month later Kearney destroyed a nest of pirates at Cape Antonio.

The second episode is thus officially reported:

U. S. SHIP "HORNET," AT SEA, October 30th, 1821.
Lat^{d}. 19° 47′ N. Long^{d}. 74° 05′ W.

Sir:

. . . . Having had bad weather and unfavorable winds almost ever since, we did not get through Turks Island passage until yesterday, when we fell

[20] *Vide supra*, p. 126.

[21] N, November 10, 1821. For further details see S. O. (O. L.), Vol. LXIV, Nos. 58½, 68, 75½; 17C-2S, Sen. Doc. 1, 56; ASP, I, 804; CHN, III, 21; E, 76; H, 124; LE, 22; NE, 547; NEE, 308.

in with and captured off St. Domingo, the Piratical Armed Schooner called the *Moscow*, mounting one two-pounder. She has no commission and a mixed crew of Blacks and Spaniards, Nineteen in number. I have put on board the necessary officers and men to Navigate her, and have instructed Mids. Kennon to proceed with her and such part of her crew as I have thought it safe to leave on board, to the first convenient port, agreeably to your general instructions, and deliver her over to the Civil authority.

We found on board a number of articles, evidently, of her plunder. She has been out but a short time, as she had on board fresh fruit, &c. She was in pursuit of a Merchant Brig at the moment we came up with her.

I have the honor to be,
Sir, with great respect,
Yr. obt. Svt.,
R. HENLEY.

The Honble.
Smith Thompson, Secretary of the U. S. Navy.[22]

On December 1, 1821, the brig *Larch*, recaptured by the *Enterprize*, arrived at St. Andrews. The *Larch* and the *Lucies* furnished volunteers for the affair with the pirates.[23]

Better than nothing, however slight, was Ramage's seizure of a boat on November 8.[24] The work was done by boats from the *Porpoise* under the immediate command of Lieutenant Curtis, and is referred to in a letter from Ramage to the Secretary of the Navy:

U. S. SCHOONER "PORPOISE" OFF MATANZAS,
ISLAND OF CUBA 24th November 1821.

Sir:

On the 4th instant I received information of a piratical boat off Cape Antonio; on the 8th, I arrived there and captured her loaded. The goods I took on board here. The crew of the captured boat made their escape to the woods on the approach of force. . . .[25]

It is impossible to share the optimism of President Monroe, or to discern the "considerable check" he mentions in his fifth annual message to Congress on December 3, 1821:

Vessels have likewise been employed in cruizing along the Atlantic coast, in the Gulf of Mexico, on the coast of Africa, and in the neighboring seas. In the latter, many piracies have been committed on our commerce, and so extensive was becoming the range of those unprincipled adventurers, that

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[22] MCL, 1821, No. 156; for further details, Log of the *Hornet;* 17C-2S, Sen. Doc. 1, 56; ASP, I, 804; CHN, III, 21; E, 76; M, II, 28; NE, 547; NEE, 308.

[23] 17C-2S, House Rep. 141.

[24] Log of the *Porpoise;* S. O. (M. L.), Vol. CXV, No. 93; 17C-2S, Sen. Doc. 1, 56; ASP, I, 804; E, 76.

[25] N, December 29, 1821.

there was cause to apprehend without a timely and decisive effort to suppress them the worst consequences would ensue. Fortunately, a considerable check has been given to that spirit by our cruizers, who have succeeded in capturing and destroying several of their vessels. Nevertheless, it is considered an object of high importance to continue these cruizers until the practice is entirely suppressed.

Many more vessels of war, under vigorous and skilful control, were needed. Adequate means in the competent hands of a local commander-in-chief would alone suffice. Anything less was a waste of time and effort so far as the total extirpation of pirates was concerned. An occasional brush with them here and there was of no avail. For years, this system had been pursued and under it piracy had flourished. That it still continued to do so is proved by a letter from Havana, dated December 14, 1821:

The cruisers are again plundering the vessels of the United States, as soon as the latter leave the coast; and there are now three out from Regla, full manned, who board every vessel they fall in with, and have this week ransacked several and maltreated the crews. We do not know where the vessels are which were about out here for our protection, as none of them have appeared for many days nor entered the port.[26]

It was just at the time of writing this letter—December 13, to be exact, that the schooner *Exertion*, Captain Barnabas Lincoln, was captured off Cape Cruz by a Mexican schooner of 4 guns and 40 men, and robbed of everything.[27]

The year 1822 was marked, on the one hand, by increased depredations upon our commerce and, on the other, happily, by a larger number of captures of piratical craft by our cruisers, heavily reinforced in those waters during the spring. The West India squadron was placed under the command of Captain James Biddle, in the frigate *Macedonian*. During the year the following vessels were under his orders:

Frigate Congress	36 guns
Corvette John Adams	24 "
Sloop of War Hornet	18 "
Sloop of War Peacock	18 "
Brig Spark	12 "
Brig Enterprise	12 "
Schooner Alligator	12 "
Schooner Grampus	12 "
Schooner Shark	12 "
Schooner Porpoise	12 "
Gunboats No. 158 and No. 168.	

[26] N, January 12, 1822.
[27] CBL.

It should have been evident that the larger ships could be of little value on such service except through the moral influence of their presence and as mother-ships to the smaller vessels. Biddle's squadron had, however, the effect of making plain to the local authorities in Cuba, Porto Rico, etc., that the United States had taken up the matter of piracy seriously and with the determination to suppress it at all costs. It is to be noted that an extra number of officers was assigned to certain of these vessels, doubtless with a view to their employment in surveying and in boat expeditions. Thus, borne on the books of the *Porpoise* as on duty, "West India Station," were no less than 22 lieutenants besides Ramage, her captain. Her medical staff under the same head comprised six surgeon's mates.

As the detailed narrative shows, the credit for the actual work done must be largely awarded to the brigs, the schooners and the gunboats. The total tonnage and the total number of men in the squadron, distributed among light draft swift schooners, would have yielded a far greater return.

On the 7th of January, the brig *Spark*, Captain John H. Elton, recaptured a Dutch sloop from the pirates and sent her to Charleston, S. C., with a prize crew.[28]

UNITED STATES BRIG "SPARK,"
CHARLESTON HARBOR, 26 Feby. 1822.

Sir:

* * * * * * * * * *

I have to report having brought into this port for trial seven men found on board a Dutch vessel, which I recaptured from them in the early part of January last off the island of Aruba.[29]

Perhaps, Sir, in the re-capture of this vessel I have exercised to the full extent the authority vested in me by your orders, and also all the power authorized by an extensive construction of the act of Congress relating to pirates. But, Sir, I trust that upon reflection you will approve the steps I have taken in displacing them and bringing them to the United States for trial.

They report themselves as originally belonging to a Spanish felucca privateer sailing under a commission granted by the commander of a Spanish Frigate, then laying in Puerto Cabello, but had no document whatever to confirm what they asserted, nor any paper shewing their authority for cruising upon the high seas. Even admitting that authority was invested from such source, I acted under a belief that it was illegal, and of course ought to be discountenanced by a commander situated as I was, for I felt

[28] E, 76; NE, 547; ASP, I, 304.
[29] Not identified.

myself obligated to use all means compatible with the maritime law of nations for the protection of our vessels, which from their defenceless state in those seas were subjected to the aggression of armed forces fitted by private individuals for the avowed purpose of capturing every vessel that should fall in their way, and which they did on the plea of an intention on the part of vessels so captured of violating the royal Spanish blockade which was said to be ordered. And, Sir, in arresting the progress of these men I conceived that I saved much property that was afloat in those seas belonging to citizens of the United States, as they were armed and prepared to capture such vessels as were found in their way.

Independent of these considerations, there was circumstantial evidence sufficient to confirm a belief in my mind of their being pirates of the worst class. . . . .

I have the honor to be,
Sir, very respectfully,
Your obed^{t}. Servant,
JNO. H. ELTON.

Honorable
Smith Thompson,
Secretary of the Navy,
Washington, D. C.[30]

That piracy was becoming more and more rampant is certain from the following record of depredations:

"January 14—The brig *Bollina,* of Boston, was robbed by pirates off Cape St. Antonio. The crew were treated in a cruel and inhuman manner. Vessel given up.[31]

This was probably the brig *Bolina* mentioned in the log of the *Porpoise,* under date of January 15.[32]

January 15—The schooner *Emerald,* Bradford, of New York, was treacherously seized by pirates on the coast of Cuba, the pirates, eight in number, using a boat from shore. The captain and crew were wounded more or less by knives, &c. Vessel given up.[31]

The brig *Alliance,* Perkins, of Kennebunk, Maine, bound from Port au Prince to New Orleans, was plundered and burnt off Cape St. Antonio by a schooner of 30 tons and 25 men. The vessel was run ashore and her crew turned adrift in an open boat.[33]

January 16—The schooner *Charles,* Glavery, of Baltimore, was taken by the pirates off Cape St. Antonio; afterwards abandoned.[33]

The schooner *Camden,* Perkins, of Camden, Me., was destroyed off Cape St. Antonio. Crew saved.[33]

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[30] M. C. L., 1822, No. 24.
[31] MWHP.
[32] *Vide* Ramage's letter January 20, *infra,* p. 143.
[33] MWHP.

The brig *Dover*, Sabins, was robbed a few hours out of Matanzas, and suffered to proceed.[33]

January 24—The schooner *Jane*, Miller, of Boston, was taken possession of by pirates in the Santara channel; plundered and given up.[33]

This was a dreary record of losses, but the indefatigable Ramage delivered a telling blow in reply:

From the 15th of January to the 1st of February, 1822, the U. S. schooner *Porpoise*, swept the N. W. coast of Cuba, and captured and destroyed twelve vessels and two on the stocks, besides three establishments on shore.[33]

The official notification of this good work on Ramage's part is contained in the following letters:

U. S. SCHOONER "PORPOISE,"
OFF THE NORTH COAST OF CUBA, 20th January 1822.

Sir:—Having completed the necessary equipments of this vessel, at New Orleans, on the 7th inst. and previously given public notice that I should sail from the Balize on the 10th, with convoy, I have now the honor to inform you that I proceeded to sea on the day appointed, with five sail under my protection. On the 15th, having seen the vessels bound to Havana and Matanzas safe to their destined ports, I made all sail to the westward, and on the following day boarded the brig *Bolina*, of Boston, Gorham master, from whom I received the following information: That, on the day previous, his vessel was captured by pirates, and robbed of every material they could carry away with them, at the same time treating the crew and himself with inhuman cruelty. After supplying him from this vessel with what necessaries he required, I made sail for the land, and early the following morning, (Saddle Hill,[34] on the north coast of Cuba, then bearing S. by E.) I despatched our boats, with forty men, under command of lieut. Curtis, in pursuit of these enemies of the human race. The boats having crossed the reef, which here extends a considerable distance from the shore, very soon discovered, chased, and captured, a piratical schooner, the crew of which made their escape to the woods. Lieut. Curtis very judiciously manned the prize from our boats, and proceeded about ten miles to leeward, where it was understood, the principal depot of these marauders was established. This he fortunately discovered and attacked. A slight skirmish here took place, but, as our force advanced, the opposing party precipitately retreated. We then took possession, and burnt and destroyed their fleet, consisting of five vessels—one of them a beautiful new schooner, of about sixty tons, ready for sea, with the exception of her sails. We also took three prisoners; the others fled to the woods.

In the affair just mentioned, the officers of the expedition state the enemy's loss to be severe. Only one man was wounded in our boats—and it is worthy of remark, that this man was one of their own gang, then a prisoner in our possession, and surrounded by our people.

[33] MWHP.

[34] Twelve miles southwest of Bahia Honda.

The destruction of this place will, I trust, be of some service. From information by me received, it was their principal depot, from whence they dispatched squadrons to Cape Antonio. These returning, loaded with plunder, it was transhipped to Havana in vessels sent from there for that purpose. Stores and materials were collected on the spot, not only for repairing but building vessels.

The prisoners now on board are recognized by a seaman in my possession, who was one of the crew of the English ship *Alexander,* of Greenock, lately burnt by these pirates; and, not content with destroying the vessel, they inhumanly butchered her unfortunate commander. The seaman in question, I retain as an evidence in the case.

Lieut. Curtis speaks in the highest terms of the gallantry and good conduct of midshipmen Pinkney, Kingston and Morris; as also of doctor Terrill, and every other officer and man employed in the expedition. Nothing could exceed their ardor in pursuit but their enthusiasm in attack; and both affording abundant proof that more would have been done had more been required.

I have manned one of the schooners taken, a very fine fast sailing vessel, and keep her with me. She will prove of great service in my farther operations on this coast.

I cannot close this letter, sir, without naming to you lieut. Curtis, whose conduct, not only in the present instance, but in every other respect, during the period he has been under my command, has merited my warm and decided approbation.

I have the honor to be, &c.
JAMES RAMAGE.

Honorable Smith Thompson,
Secretary of the Navy.[35]

The following extract from a letter of Lieutenant Ramage to the naval officer commanding at Charleston, throws a little more light on his operations at this time:

OFF THE NORTH COAST OF CUBA,
25th January, 1822.

I have just time to tell you I shall be at Charleston in two or three weeks. I have taken and destroyed six piratical vessels, burnt two of their establishments, killed some of their people, and have now some prisoners on board. I also recaptured from them an American vessel, which had been in their possession three days. I have one of the schooners taken, acting as a tender, and find her of great service.[35]

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[35] N, February 16, 1822. *Vide* S. O. (M. C. L.) Vol. CXVII, No. 73; 17C-2S, Sen. Doc. 1; ASP, I, 804; CHN, III, 22; E. 76; M. II, 28; NE, 547; NEE, 308.

SKETCH CHART OF CUBA SURROUNDING

HART OF CUBA SURROUNDING WATERS

He also writes to Commodore Patterson a few days later:

UNITED STATES SCHOONER "PORPOISE,"
OFF THE NORTH COAST OF CUBA,
29th Jany., 1822.

Dear Sir:—

Another opportunity affords me another occasion of addressing you. I yesterday captured and destroyed four more piratical Vessels and made six prisoners. I have also, since I last communicated to you, burnt two of their principal depots, containing stores, materials, &c., and two new Vessels on the stocks. I believe I have pretty well cleared this part of the coast, and am now proceeding with my *Tender* off Matanzas, where, I understand, some depredations have lately been committed.

I am, dear Sir,
Yours Respectfully,
JAMES RAMAGE.

Comᵒ. D. T. Patterson,
U. S. Navy,
New Orleans.[36]

His immediate superior (for Biddle, who did not sail from Boston until March, had not arrived on the station) had likewise not been idle:

NEW ORLEANS, January 30, 1822.

Sir:

* * * * * * * * *

The Boats of the Barataria Station, under Lieut. Cunningham, succeeded a few days ago in capturing a Pirogue, Campeachy built, with eight armed men on board, of most suspicious appearance and character, whom he sent to this place for trial, and a Bill has been found against them for Piracy.

I have the honor to be,
With Great Respect,
Your obt. Servt.
DANL. T. PATTERSON.

Hon. Smith Thompson,
Secretary of the Navy,
Washington.[37]

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[36] C. L., 1822, Vol. 4, No. 15.
[37] C. L., 1822, Vol. 4, No. 8.

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U. S. NAVAL INSTITUTE, ANNAPOLIS, MD.

THE TRAINING OF RECRUITS

By LIEUTENANT ERNEST DURR, U. S. Navy

Motto: "Good men with poor ships are better than poor men with good ships."—MAHAN.

INTRODUCTORY

Knowledge of many of the finer points of the naval profession which could be gained in no other way is frequently gained through arguments started in mess rooms. An argument on the subject of training can do no harm and may do some good. It is in this spirit that the writer undertakes a subject which has been covered so thoroughly and completely in the past.

In the rush of naval development of recent years it would seem as if not enough thought had been given to the training of the enlisted personnel. At various times statements have appeared in print that the American bluejacket is superior to any foreign bluejacket. We would all like to accept this at its face value, but in spite of our natural inclination to believe it, the opinion is slowly gaining ground that we have deluded ourselves into a feeling of fancied security on this subject.

It might be of interest to note that a celebrated British writer and military critic made a comparison of the British, Russian, Japanese, German, French and American forces which made up the Pekin Relief Expedition during the Boxer uprising in China. In his opinion the Americans were potentially the best in the world, but they were permitted to take outrageous liberties with their health. From this criticism, which was part of a very fair criticism of Americans in China, we may assume that the lesson of the Spanish War, in which 13 times as many men died of disease as were killed in battle, was not well learned. It is an American characteristic to forget our military deficiencies in the flush and celebrations of success. The younger generation is allowed to forget that

during our war for independence, England was at war with France, Spain and Holland, and that during the War of 1812 she was struggling against Napoleon. Then, more than now, our strength lay in our geographic isolation, and it is probable that we would still be an English province if England had been free to devote more attention to us. The wars in Europe indirectly aided our cause more than our own efforts. The belief, current in civilian life, that we are invincible is a menace to our national existence. In the service, among enlisted men, it is antagonistic to discipline and military self improvement. Thanks to the 42-centimeter siege gun, the aeroplane and the submarine, the public as a body is awakening to the importance of matériel, and it behooves the service in like manner to awaken to the importance of personnel.

For officers and men there are no standardized systems of training. Many of the older officers agree that midshipmen, upon graduation from the Naval Academy, are notoriously deficient in handling men. This is shown by that type of young officer-of-the-deck who usually attaches a request to his order. Commands such as "Boatswain's mate, coal the first steamer, will you?" or, "Master-at-arms, bring John Jones to the mast, will you?" are heard frequently enough to be distinctly disagreeable. In this we can see a concrete example of a state of mind which has caused a gradual slackening of the discipline and which found its inception in the establishment of the "Plucking Board."

No matter how much good the "Plucking Board" may have done toward the suppression of "sundowners," and opinion is unanimous as to the good accomplished, it is certain that the fear of being plucked has done some harm to discipline, which is apparent in all ratings of the enlisted personnel. The whole subject of the training of our enlisted personnel is one of vital importance to the service and to the country. We may win one battle with fine ships, but we cannot win two battles in succession, much less a war, unless we have a finely trained personnel to man those ships.

Perhaps the reason for part of this slackening can be ascribed to the hump in promotion that existed prior to 1898. After the Spanish War gray-haired lieutenants were rapidly advanced to commanding and flag ranks, while junior officers were as rapidly advanced to watch and division duty. The latter were immediately called upon for duty which had been performed by older officers with the superlative skill and insight of years of practical experi-

ence. In extreme instances midshipmen were given all of the duties and responsibilities of lieutenants, without having had any instructive experience in a subordinate capacity. As a result the officer-of-the-deck dwindled in importance. Even to-day he has not regained his old-time prestige.

Scientific management is just as appropriate in the training of personnel, both commissioned and enlisted, as it is in the handling of matériel. The most scientific and thorough nation in the world incorporates in its system of training for officers a period during which they are under the command of chief petty officers. In a monarchial country noted for efficiency and economy of effort, where class distinction and caste are paramount, this can be explained only by the assumption that the experience has a proved educational and psychological value.

A few officers in the fleet are occasionally frank and outspoken in criticism of the men sent from training stations. If we consider what the men are taught at training stations and bear in mind the duties they will be called upon to perform later on board ship, this criticism is undoubtedly justified. But in justice to training stations it is only fair to say that the men are well instructed as far they go, and in the opinion of many officers who are competent to judge are not only as clean, but much better disciplined than they are at any other time in their subsequent careers in the service.

The final aim of a training station should be to train men who will be eminently satisfactory to their future commanding officers. In view of the fact that we have the anomalous scheme of training men *on shore* for service *afloat* this seems almost impossible of accomplishment. Conditions in barracks are radically different from those on board ship. The comparatively long time spent in barracks appears to be an extravagant waste of part of a term of enlistment which, in itself, is too short a period of time for the training of a good sailor.

The navy is a strange world in itself, probably altogether different from that which the recruits imagine it to be. The abrupt transition from life in barracks to life on board ship, an experience which every recruit naturally undergoes, must produce an impression not unlike that which a countryman lost in New York must feel. The recruit having passed through the strenuous routine of the training station, which was supposed to fit him for his place on board ship, is almost completely lost in his new environment. For

a time he is bewildered by the change, and doubtless longs for the fancied ease of barracks routine, which in reality is much harder than ship routine. In his dazed condition he is hurried to quarters, work and drills by relentless officers and petty officers, whose methods are perhaps none too gentle, and who have neither the time nor the inclination to make careful explanations to " rookies."

It is not improbable that recruits are unhappy and inefficient in this new sphere of activity until they find themselves, and the process of finding themselves may require many weeks. In the meantime desertion may appeal to many as the easiest solution of a vexing problem.

Close study of the situation in general may reveal a similar fault in the training of midshipmen. More than one commanding officer has been heard to complain that his junior officers were of negative value for the first half year after graduation from the Naval Academy. Yet recruits have a much longer relative step to take in their progress from training stations to the fleet, than have midshipmen from the Naval Academy to general service.

Recruits are taught a very little seamanship, they are taught how to shoot and care for the rifle and pistol, how to keep clean and obey orders. Their real training must begin after they join the fleet. But in view of the fact that they spend from two to six months in barracks, where they practically mark time for half of the period, it appears that training stations do not completely meet the requirements of the situation as far as orderly progress in training is concerned.

The Great Lakes Station is a good advertisement for the navy in the Middle West. The best reasons for the existence of the others are the location of a rifle range, a place to hold men in quarantine during the period of incubation of possible disease, and a parade ground for infantry and artillery drills. These drills furnish the ideal method of teaching discipline, attentive bearing and prompt obedience. Perhaps this is all that is expected or desired; but if we can do better we should do so.

Men should be trained afloat, and the minor expense involved is not worthy of consideration if the navy is to get a quick and adequate return from them. Under existing conditions, recruits are sent on board ship much better qualified to be soldiers than sailors. If they were required to spend one-half of the training period in barracks and the other half on board training ships,

they could join the fleet and not lack, as they do now, many of the most elemental sailorly qualities. Preparation in advance would fit them to drop into place at once. There need be no lack of discipline nor desirable military qualities, provided such training vessels were based at training stations, and organized and administered with a view to train recruits under the same discipline that now obtains. Ships in reserve could be used for this purpose. The expense would not be prohibitively large, and the ships could be kept in as good, if not better, condition than they are at present.

After a recruit has been rated ordinary seaman or coal-passer and transferred to the fleet, it must fairly make one ache with disgust to hear him speak of the floors of the ship, of the front and rear ends, of going up-stairs and down-stairs, and the like. Such ignorance may be inexcusable, but nevertheless it frequently exists. The men are not to blame. They cannot learn to speak the language of the sea in barracks, because, to the average recruit who was raised on a farm or in an inland village or city, seafaring terms are as unintelligible as Greek.

If one or two old battleships or cruisers were available at training stations for duty in connection with the training of recruits, a sort of clearing-house for recruits on general detail could be established. Provided the military instruction was maintained at its present standard, the service would be amply repaid in the improved quality of the men turned out, even though the technical instruction was limited to the scaling of double bottoms and similar work necessary for the upkeep of the ships.

If any of the foregoing criticism is constructive, which it is meant to be, then a logical and constructive conclusion is that the Atlantic and Pacific Coast Training Stations should be placed under the control of the commanders-in-chief of the Atlantic and Pacific fleets respectively. These stations would thus gain the pseudo character of fleet units, which is necessary in order to bring recruits into closer contact with the ideas and influences that will affect their future value in the fleets.

MILITARY TRAINING

The following brief outline of the progress of recruits through the Newport Training Station may be of interest. It is hoped that the impression produced will be in favor of training vessels, even though a need for such vessels may not be proved conclusively:

Immediately after arrival, recruits are sent to a receiving building where they are examined, given a bath, a hair cut and are outfitted with part of their uniform allowances. After this they spend three weeks in quarantine in buildings known as detention barracks, where they are assembled in groups of 28 men each. They are in command of a chief petty officer, who instructs them in the manual of arms, the school of the recruit and squad and shows them how to scrub and care for their clothes.

Landsmen for yeoman, hospital apprentices, cooks and bakers are transferred to their respective schools immediately after the detention period. The apprentice seamen for ordinary seaman the apprentice seamen for coal-passer are formed into companies or divisions of 112 men under the command of the chief petty officer. They are then transferred to the apprentice seaman barracks to begin the course of instruction which, including detention, lasts from two to six months.

During the first two-thirds of this period the coal-passers are trained in exactly the same manner as the men of the seaman branch. During the last third they are assembled in a coal-passer company for such technical and practical instruction as the facilities of the power boats and the boilers of the station afford. All men must come up to the same requirements of cleanliness and discipline. When there is opportunity for the necessary instruction, coal-passers must be able to pull a fairly good oar, tie the most useful knots and know how to fire and care for the rifle and pistol, before they are advanced to the technical instruction of their specialty.

The daily routine in barracks remotely resembles that of a ship, or rather an effort has been made to follow ship's routine. The ordinary observer might have considerable difficulty in detecting the resemblance, but due to the fact that one instructor, a chief petty officer, has the herculean task of whipping 112 green men into shape, it has been necessary to eliminate much from the routine that would cast light on future life on board ship.

The day, which begins at 5 a. m. for men in the apprentice seaman regiment, is a continual grind of work, drills and inspections. There are five daily drill periods of one hour each, which are devoted to ordnance, seamanship, infantry and artillery, Swedish exercise and school.

The instruction in ordnance is limited to the nomenclature and care of the rifle and pistol, and the firing of the marksman's course. The firing, by itself, is no easy task. The majority of recruits know absolutely nothing about a high-powered rifle or pistol, and it is necessary to exercise the most rigid supervision over both individual and collective firing in order to prevent accidents. A "citizenry trained to arms" seems to be non-existent, at least as far as the supply of naval recruits is concerned. The new movement toward preparedness which is finding expression in schools and colleges may do much, as time goes on, to remedy this defect. If this movement materializes we had better forewarn ourselves against the future "I told you so" of the present opponents of preparedness.

In common with many other matters of importance, the thoroughness of the instruction given to recruits varies with the length of time it is possible to devote to the purpose. A term of six months has been found long enough to turn out a fairly good ordinary seaman or coal-passer, subject of course to the limitations of having been trained on *shore* for service *afloat*.

If it were possible to devote all of the time to instruction, a period of four months would be ample time to turn out comparatively excellent men. But, unfortunately, on account of the continual effort to economize, the unsettled conditions, and possibly other reasons of which only those who must shoulder the responsibilities are cognizant, the recruits must frequently be employed at tasks which are not diversified nor well-balanced enough to fit the men, as expeditiously as desired, for transfer to the fleet.

Two months can hardly be considered a good beginning. The fact that the men are sent to the fleet as apprentice seamen instead of ordinary seamen or coal-passers has no bearing on their fitness to go. Some of them are physically unfit. Although the Swedish system of physical exercise works wonders in the physical development of recruits, it cannot accomplish the impossible. It cannot develop boys into men in two months, but we know from past experience that, if followed conscientiously and intelligently for four months, it will frequently develop boys so that they can do the work of men.

At first glance seamanship seems to be covered thoroughly. But as all instruction in the subject, except in signalling and in boats under oars, is carried on under the most artificial conditions,

only the brightest recruits can absorb enough to be noticed in practical application on board ship.

Owing to the demand for good signalmen it has been necessary to found a signal school. Only quick thinking, intelligent youngsters with a good common school education make good signalmen, and constant application is necessary after becoming proficient to remain so. The ever-increasing importance of accurate signalling in the fleet is a good reason why better inducements should be offered to encourage men to become expert signalmen. Signalling is treated in a very careless manner throughout the navy. For proof of this consult the service records of any number of petty officers and chief petty officers of the seaman branch, excluding quartermasters. Take all those whose records are marked with a 4 or higher in signalling and 90 per cent of them will be found not competent to receive a simple semaphore or wigwag message.

It is futile to expect all men or officers to be expert signalmen. Constant practice is necessary, and in some cases the natural ability is lacking. In order to better the situation it is necessary to establish the rating of signalman, with pay commensurate with the importance of the duty, or else limit the possibility of promotion to the rating of quartermaster to expert signalmen who are actually serving as such.

The Swedish system of physical exercise is an invaluable adjunct to the purely military drills. The quick improvement in general health, strength, endurance and alertness, resulting from this system is truly remarkable. Gains in weight among recruits of from 10 to 30 pounds in four months have been frequent, circumstances which, if not conclusive proof of the soundness of the principles of the system, certainly are a good advertisement for the navy ration.

On account of the shortage of an adequate training force, it has been necessary to give the instructors more authority than that ordinarily exercised by division officers in the fleet. Although this shortage finds expression in a lack of thoroughness, it has forcibly brought home the idea that the institution and the service cannot be at their best if run on the one-man principle. Many chief petty officers have come from ships where as yet this doctrine is not fully accepted. They start upon the principle that if you want a thing done well you must do it yourself. It does not

take long for them to realize the utter futility of such a principle in the handling of a company of green recruits, no matter how willing the recruits may be to learn.

This ideal should be one of the basic principles of all military training. Perhaps those who have not accepted it do not fully appreciate the fact that the navy is for war, and that during war death, which is an inconveniently permanent state, is an occurrence of disagreeable frequency. The leader who gets killed in war cannot return to direct or instruct those whom he has failed to indoctrinate.

What is to be most desired in a modern man-of-war's man? Before attempting to answer this question it is logical to consider conditions in retrospect as well as at present. Until quite recently bluejackets were trained on sailing ships. It required comparatively long periods of time to cruise from one port to another, and the men were not granted as much liberty as they enjoy now. Restriction was a common form of punishment for various misdeeds, and many men frequently spent three months or more without going on liberty at all. Consequently, when such men were permitted to go ashore, they stayed the limit of nine days and returned perfectly satisfied to be court-martialed and restricted for another three months. Thus the habit of liberty breaking grew and formed. It was looked upon as an evil that had to be endured. In fact, it grew so deeply rooted that, after an extended cruise, the man who returned on time was an exception.

In spite of this fault a class of competent sailor-men were trained. The petty officers seldom failed to command the profound respect of their men, or to exact instant and implicit obedience from them. This type of iron-fisted bluejacket is practically non-existent now. There is no opportunity to train him on board the modern ship, and besides the iron fist has been sent to the scrap heap of barbarous methods. Sails, the handling of which at sail drills and working ship, made self-reliant and capable men, and gave the petty officers ample opportunity to develop force and character, have gone forever, and nothing of equal training value has come to take their place on board a modern ship.

In the day of sails the responsibility of the officer-of-the-deck for the safety of the ship was a tangible reality. He dared not engage in any occupation which might distract his attention from

his duty. On certain occasions, the life of every soul on board depended upon his alertness and instant action. It was a common occurrence to call the watch below from their hammocks to shorten sail in the inky darkness of a violent squall, when the ship might already be on her beam ends, and the least delay or confusion would have meant destruction, or at least serious damage. The discipline and training of men, who frequently went through such experiences as part of a day's work, should be eulogized and emulated.

To-day a sudden squall brings no moments of thrill. Perhaps the officer-of-the-deck keeps a closer watch on the ship ahead, starts the fog whistle, and hauls over the hatch hoods. Then men, and not infrequently the lookouts, seek shelter. Indeed, the only occurrences which cause them, of their own volition, to move faster than their normal languid gait are "man overboard" on deck, and a burst boiler tube or other serious casualty below. Such emergencies are invariably met with resourceful daring by the modern bluejacket, but unfortunately the dangers are too great and far-reaching in their consequences to be courted in the manner in which old sailors drove their ships in bad weather.

The modern bluejacket has been criticized for lack of decision. The petty officer frequently appears to lack self-confidence and force, and this may account for the indecision of the bluejacket. This cannot be very far from the truth if we consider that the value of many petty officers is judged by their ability to work, rather than by their ability to command and supervise workers.

Many officers still believe that the ideal way of training men for the navy of steam and steel is to train them on sailing vessels. In a sense this belief is supported by the fact that some steamship companies will not employ any officers except those who have learned seamanship and developed their senses of responsibility by service on sailing ships. But the field of application, on board a modern man-of-war, for the skill and knowledge of enlisted men trained by sailing, is hardly extensive enough to compensate for the loss of time necessary for such training. The inherent qualities of men so trained are very desirable, but on account of the obsolescent method it is now more expedient and advantageous to develop qualities more appropriate to modern conditions by military training.

The modern man-of-war's man is called upon to perform a multiplicity of duties in drilling, shooting, coaling, repairing and cleaning, no one of which bears the same relation to military training in the new navy that sail drills did to general training in the old. Military training is essentially a process of character forming. The one possible means of carrying it on in a progressive manner on board ship, now and in the future, is by the standardized and uniform performance of guard duty by bluejackets. In most cases in the past this has been delegated, unfortunately, to the marines.

There is no doubt that the man who frequently exercises the temporary authority of a sentinel becomes more and more alert, reliable and forceful, provided he is taught to perform his duty as it should be performed. There is no better exercise for sharpening the wits of thoughtless, irresponsible youngsters than the carrying of verbal messages as orderlies and messengers.

It is noticeable that marines are invariably capable in the performance of some of the ordinary duties of bluejackets, and that bluejackets are frequently incapable, or at least very mediocre, in some of the ordinary duties of marines. Indeed, the splendid efficiency of the marine corps is admired by many line officers of the navy, but if this efficiency has in any way been augmented by guard duty on board ship, is it not probable that some of it has been gained at the expense of the navy?

Marines are meant to be an expeditionary force to occupy advanced bases in time of war, and in this capacity they will be of inestimable value to the navy. Guard duty on board ship does not train them for this purpose. We are on the wrong tack if we permit them to perform any or all of the guard duty, simply because when any advanced bases are to be occupied they will not be on board, and it will be necessary to fill their places with bluejackets, and this, too, at a most inconvenient time. Mahan's truism of strategy, that "a fleet charged with the care of its base is a fleet by so far weakened for effective action, weakened both strategically and tactically," is applicable herein to such an extent as to be worthy of serious consideration.

There are no marines at the Newport Station. The most rigid attention to every detail of guard duty is exacted from apprentice seamen, partly from an absolute belief in the foregoing and partly from necessity. It is surprising how much government

property can be destroyed (principally windows and electric lights) and how many irregularities can be committed by a thousand irresponsible recruits. It is extremely gratifying that in a very few weeks these same recruits are capable of performing, in a satisfactory manner, all of the important duties of the station, which at one time required a large marine guard.

This training develops the latent reliability and trustworthiness, or uncovers the unreliability or untrustworthiness, as the case may be, of the individuals. One important duty of the training station is to furnish this information to the fleet, especially in the cases of men who show qualities of leadership. The only way to tell if a man is worthy of trust is to trust him. If given enough time an untrustworthy man will soon declare his character, and this information will be of value to his future division officer.

A few years ago the marines were temporarily withdrawn from ships, and all guard duty was performed by bluejackets. In isolated instances there was dissatisfaction with the order of events, but, in general, the navy was well satisfied to cope with the situation by itself. There was no recognized plan whereby the bluejackets were to continue the duty. On some ships a permanent bluejacket guard was formed; on others it was made up of weekly details from different divisions; and on some the feasibility of guard mount by gun divisions in turn was considered. At the beginning, methods necessarily varied in order to determine which scheme would least interfere with routine and best conduce to battle efficiency. With a sufficient number of men to replace marines it would not have been long before service opinion would have crystallized on the subject. It is to be regretted that bluejackets did not continue to perform guard duty after the marines returned, because it would have been of immeasurable benefit to the navy.

In general, the larger the force needed to guard against internal disorders, the poorer the discipline of the organization. One of the most important aims of discipline is the self-governing unit. Manifestly this aim must be disregarded in the navy as long as a subordinate body, the marine corps, performs the guard duty.

The briefness of the authority exercised in guard duty serves as a check upon that intolerance which the untrained man frequently shows towards others, which is often productive of more or less ill feeling. The briefness may also encourage neglect, but the fault will rest only with the officer who tolerates neglect.

While it is impracticable to train all men along these lines, the artificers and special branches would certainly profit by example if the men of the seaman branch were so trained. Taken all in all, there is absolutely no doubt that such training will make all men fit for a better performance of duty at guns, in turrets, in boats, in repairs, at fire or collision, or any other of the numerous duties in which, above all else, initiative, trustworthiness and a sense of responsibility are essential. The whole question of discipline would be simplified.

As a whole, recruits are surprisingly amenable to discipline. They are representative of the youth of our country, and the writer does not hesitate to declare his belief that there are fewer undesirables among them than among any equal number of young men in any corresponding walk in civil life. Of course, an occasional thief crops out amongst them. Also there are rowdies, but they are fewer in number than in any college of the same size. Needless to say, rowdyism is promptly suppressed when it comes to the notice of the authorities, and thieves are summarily discharged without honor.

The majority of reports made against apprentice seamen are for insolence to and threatening sentinels and apprentice petty officers. Many of the offenders have come from homes, or have attended public schools, where the rod has been unwisely spared in childhood. Others appear to have been brought up with the idea that respectful obedience is equivalent to servility and not in keeping with the Declaration of Independence which declares that all men are created free and equal. Some of these men can be corrected by a mild punishment, and thereafter rarely, and in many cases never, appear again at the mast. Others who are innately unfit for the service appear again and again for various offences, of which the most common are shirking and being continually dirty, until finally they are discharged as undesirable. Added to the latter class are some, discharged for inaptitude, who cannot or will not learn.

A few of these men could be saved for the service, if enough officers and chief petty officers could be spared from the already under-officered and under-manned fleet for this important duty. It requires much time and patience for the task of bringing one such man up to the standard, and the result is always doubtful. The effort could be devoted more profitably to the certainty of making 50 good men better.

Many undesirables slip through, and therefore the process of weeding out, begun at training stations, should be continued in the fleet. It is questionable whether or not it is wise to try to save such men. There are many valuable and desirable men serving in their second enlistments who were particularly undesirable and useless in their first. These examples cannot be considered as good reasons for retaining bad men, because a possibility of future usefulness does not compensate for present and certain uselessness.

The idea is slowly gaining ground among a few capable and far-seeing officers that the time is not far distant when a commander-in-chief, or commanding officers, subject to the approval of the former, will have the authority summarily to discharge men for certain serious offences or for repeated petty offences, even if the number so discharged exceeds the allowed 1 per cent a quarter. If General Order No. 110 filled a real need in this respect it is an indication of the trend of future events.

Should this power be authorized the summary and deck courts-martial would fall into disuse or be abolished. The general court-martial would be used during war, or for the trial of criminal and of the gravest military offences during peace.

There is no logical reason for the existence of the deck court. A few chronic and experienced offenders have been known to refer to it in terms of approval as the " speak easy." It seems paradoxical that the commanding officer, who is the one person on board ship best fitted by experience to judge of the guilt or innocence of an accused, must order *one* officer, junior to himself, frequently a lieutenant, to try a case and inflict a punishment in excess of that which the commanding officer is, by law, authorized to inflict. If it is a matter of form, a trial can be conducted very expeditiously at the mast by the captain. If it is a matter of justice, there is absolutely no doubt that the majority of commanding officers are as just, probably more so, than the majority of magistrates and justices of the peace in civil life. Excellent reasons for all of the foregoing can be seen if we analyze the naval situation in general, and look at the question of discipline from a psychological viewpoint.

The navy is rapidly turning into a military industrialism, and industrial methods are coming to the front more and more. The navy tolerates many derelictions on the part of its enlisted personnel, which would not be tolerated for an instant in any large

industrial institution on shore. Competition is now the main dependence for the stimulation of effort in target practice and engineering. The wisdom of this policy is questionable, because military character is lost in the race for supremacy. Competition is a powerful and productive force in the time of peace, and should be utilized; but we should never forget that the behavior of the personnel during war will depend wholly upon discipline and military character.

The undue prominence given to competition partly explains the attitude of some of the younger officers who hesitate to compel a proper observance of regulations and attention to duty, because they are afraid that their men will not be in a good humor for target practice. A taut officer can slacken occasionally in matters of discipline, and no harm will result; but a slack officer can never "tauten" without causing much discontent. Target practice and preparation therefor should be a continual performance in the fleet. Any incidental slackness will be continuous enough to be detrimental to discipline, and subsequent tautening will result in a twofold increase of punishments.

In contradistinction to the above there are officers who, desiring to command their men instead of being commanded by them, have cast discretion to the winds, have enforced the regulations to the letter, have exacted a most rigid attention to duty and have won trophies. Others who have gone on the same tack have followed close on the heels of the trophy winners. This proves that it is unnecessary to neglect discipline in order to utilize competition.

Old methods of cultivating discipline on board a modern man-of-war are unproductive, because modern surroundings demand an entirely different kind of man, and an entirely different point of view. When ships were small, every man was practically under the eye of an officer at all important evolutions. The old navy saying, "growl ye may, but go ye must," explains the old point of view.

Now that ships are large and subdivided into a number of compartments, more or less isolated from each other (in battle completely isolated), a man is needed who is disciplined and trained to meet this condition.

Discipline reduced to its simplest term is obedience. Obedience may be willingly rendered or it can be forced. He who is willingly obedient is loyal to the directing personality, and feels a sense of responsibility which encourages him in the exercise of the initiative which isolation demands.

In one way initiative stands as a semi-contradiction to obedience. But without the spirit of initiative the isolated man becomes an automaton, and no ship can be fought by automatons. Every leading man in a crew should feel that he has the ability to step into a position of responsibility, and he should be so trained that he is always ready to give orders to himself in a spirit of co-operation when orders from higher authority are lacking. In this sense only is discipline compatible with the American national character. It is beyond reason to expect that any American, cradled in the belief that all men have an equal right to life, liberty and pursuit of happiness, will always try hard to be obedient, unless he finds the motive within himself. Initiative, within proper limits, furnishes the motive, and the petty officers, who are the backbone of the service, should be encouraged and trained in its exercise.

Modern gunnery places men in positions of peculiar isolation. For instance, a turret gun pointer at the instant of firing is isolated in that only he knows exactly where he is aiming. The importance of willing obedience in men who direct 14-inch shells on their paths of destruction cannot be overestimated.

He who must be forced is obedient only when under the watchful eye of authority. At other times, if not exactly disobedient, he is careless, slovenly, or is a passive obstructionist. Passive obstruction is the most pernicious form of disobedience. The offender cannot be detected, and conducts himself as if authority were at his mercy. Discipline is the product of habit, but the habit, in the sense of willing obedience, cannot be cultivated in the navy as long as exceptions are permitted to remain in it.

From the beginning of civilization to the present time, law has been founded on the principle that the basic reasons for all human endeavor have been fear of punishment or hope of reward. Considered in their abstract relation to one another, hope is negative fear or vice versa, and if we accept this principle of philosophy which, from an unorthodox viewpoint, is the power behind many religions, we can consider its application to the enforcement of discipline according to naval law and regulations.

According to the most advanced thought on the subject, punishment does not prevent crime. This opinion is seemingly verified by the fact that many criminals come out of prison more dangerous to society than before they went in. Punishment seemingly does not prevent desertion nor infractions of the regulations in the navy.

The punishments authorized by the laws for the government of the navy appear in the light of an official revenge, or, to the recipients, as a price to be paid for misconduct. In many cases the men are willing to pay the price, and misconduct continues. Herein lies the fault of schedule punishments.

In general, the corrective effect of punishment lies in its promptness and certainty rather than in its severity. But the man who behaves himself simply because he is afraid to do wrong is undesirable from any point of view. This motive indicates the latent coward—the yellow streak.

Either the price may be too small or law may be fundamentally wrong. Either supposition is beyond the scope of this article. In civil life prisons are being reformed in order that prisoners will be better men after their terms have expired. A similar procedure would be hardly practicable in its correspondingly limited application to the enforcement of discipline on board ship, because no two cases could be treated alike, and the subject would require such close study that it would interfere with our main business—that of preparing for war. And further the navy is not a penal institution.

A severe punishment will make a man obey more quickly than a mild one, but will it make him obey willingly? If punishment fails, it seems that the only remedy left is to dilute the theoretically correct principles of reform with common sense and discharge those men who are not willing. The power to do this and the power of the deck court should be given to commanding officers. An officer who is intrusted with the command of a $15,000,000 superdreadnought should be permitted to exercise a degree of authority commensurate with his responsibility.

The majority of men who appear at the mast, whether recruits or not, can be separated into two classes: those who offend through thoughtlessness or lack of home discipline in youth, but are nascently willing to behave themselves; and those who offend because they think that they will not be caught. The first class can be cured by a prompt dose of bread and water, the corrective effect of which lies in the fact that an empty stomach assists meditation. Such men, if worth keeping, think seriously, probably for the first time in their lives, and come out of the brig fully convinced that their misconduct was foolish, and resolved not to be fools again.

Nominal punishment has no effect on the second class. It is an economic waste to punish them. They pay the price, bide their

time and sooner or later appear at the mast again. The only corrective effect of disciplinary value is that felt by other men through the power of suggestion. Punishment for this class seems to prune the tree of trouble and make it grow. Summary discharge for such men would eliminate the evil, root and branch, and with it the power of suggestion for evil among other men.

The crew of a ship forms a close union of a large number of strangers, among whom no officer can afford to neglect the power of suggestion. Nor can he afford to be unaware of its hidden dangers, because, under the conditions of ship life, suggestion reinforces the power of men for good or evil.

As long as service in the navy is not compulsory, summary discharge is not objectionable as a disciplinary measure, even though it may be a poor military method for correction. It does not correct. It simply removes him who needs correction, who has shown that he is not amenable.

Considering the enormous cost of the navy, its ultimate purpose and the relative importance of the authorized means of control, there is ample reason for the summary discharge, during peace, of any man who, after his first six months in the service, commits an offence deserving 30 days' bread and water and the loss of three months' pay, or an offence punishable by death during war.

The objection that summary discharge would rapidly deplete the complement of the navy is untenable, provided the refund of the cost of the clothing outfit during first enlistment were included as a condition of discharge. Of course, more attention would have to be given to recruiting, both as to quality and quantity of recruits. After mature thought it would seem that the navy would be an institution in which men would clamor to remain rather than to leave. The Navy Department would be continually flooded with requests to reinstate discharged men, and to a small extent would be under political domination, which would be a minor evil compared to the good which would be accomplished.

If our country with a population of 100,000,000 could not furnish 100,000 men for a service which offers so many advantages to ambitious young men, we had better abandon the Monroe Doctrine, fill in the Panama Canal and sell all of our outlying possessions.

MORAL TRAINING

Kipling truthfully said, "Single men in barricks don't grow into plaster saints." The same is true of men on board ship, and it is probably just as true, if not more so, of any equal number of young men in civil life. That the moral welfare of the bluejacket should be looked after is not to be gainsaid, but after careful consideration of the relative deficiencies of bluejacket and civilian, is it not probable that more is expected of the uniformed man than of his civilian brother?

Of late years the moral welfare of both bluejacket and soldier has been looked after with much zeal by a worthy class. Consequently, in some communities where bluejackets go on liberty (not from choice) Sunday baseball and other innocent amusements of like nature are prohibited, while blind tigers and other amusements, not so innocent, flourish practically unchecked.

In some quarters anti-Sunday amusement laws are regarded as a violation of the Constitution, in that they were framed in spirit to compel attendance at church. The unwilling victims of reform are very apt to regard them in this light. While it is manifestly improper to criticize any community for laws made in an Utopian spirit, it is a cause for regret that some very bright people, who apparently know so much about church and so little about human nature, cannot trust their neighbors to take care of their own souls.

A man's soul is his own, to be saved or lost by his own efforts, and environment is the strongest controlling influence. Neglecting the question of church, which bluejackets rarely go ashore to attend, where do they go for their fun in an anti-Sunday amusement community? Do they find it in promenades through strange streets or in gin mills?

Perhaps it is unfortunate but it is nevertheless a fact, that the majority of men the world over do not attend church regularly. The vast majority of bluejackets do not attend regularly, and it cannot be denied that there are thousands of worthy men and good citizens among them. In fact, the unnoticed goodness in thousands of "sinners" who can enjoy a baseball game on Sunday is in sharp contrast with the unnoticed badness in those "Christians" who influence and perhaps corrupt legislatures to pass measures of reform, while the community may profit from vice. It is a source of wonder if the sum total of good in the

navy, or in the world, can be augmented on one side when so much sin can be committed in the name of reform on the other.

The Navy cannot give its personnel the best surroundings without the help of the great American public. The community which tolerates the treatment of the uniform in a manner which tends to lower the wearer's self respect should not complain if the wearer loses his self respect and comports himself accordingly.

The navy provides chaplains of various denominations and gives men the opportunity to worship God according to their own lights. When the chaplain is not of the same denomination, the men concerned have only to ask permission to go ashore, which will never be refused, except for good and sufficient reasons.

Beyond this the navy cannot go, except to return those, who are retained in the service, back into civil life at the expiration of their enlistments, better fitted to be good citizens and neighbors. It does this in a strictly moral sense, because there is no better moral training for any man in any walk of life than the development of a sound military character by military training.

In this respect the moral training of the bluejacket rests with line officers, who must fit themselves for the task or fail in the most important part of their life work. Concerning the fitness of all officers for this task, a conscientious and altruistic chaplain, whose name the writer is not permitted to divulge, said: "I am a minister. My father was a minister, and I have been intimately associated with ministers for the greater part of my life. I have been intimately associated with naval officers for the past several years and have found as much honor, if not more, among them as among ministers."

There may be a few who know nothing about ministers and all about naval officers, or vice versa, who may regard this in the light of an attack upon ministers. But there are many who know that the standard of honor among naval officers is a high one, which is jealously and strenuously guarded, who will accept such a statement from a man ardently devoted to his religion, ideals, family and friends, as the finest compliment ever paid to the commissioned personnel of the navy. Many of us will modestly admit that it is not fully deserved, not because the standard is not high enough, but because we regret that in a few cases it had not been more jealously guarded.

From an orthodox viewpoint the navy, with all its faults, cultivates more real reverence for the Almighty than all the anti-Sunday amusement laws in existence. The good old navy custom of prayers at military formations inculcates a spirit of tolerance for the religious beliefs of others, which is more or less lacking in civil life, where different denominations worship separately. In addition, this public and official recognition of a Supreme Being fosters a spirit of reverence among those men who, in civil life, rarely, if ever, went into a church. Furthermore, no man ever went to sea and continued to doubt the existence of a Supreme Being.

The navy fails in one particular in the moral uplift of a certain class of boys who, in a natural youthful desire to break away from mother's apron strings and be considered grown up, are often exceedingly naughty. The percentage of boys enlisted under age is much greater than would be considered possible under the present laws for recruiting. Half-grown, smooth-faced, rosy-cheeked youngsters often appear at mast, particularly at training stations, for intoxication, insubordination and kindred offences, the motive for which is too frequently found in an envy of the "hard guy," surrounded by his halo of notoriety, or from a boyish desire to show off and get put into the brig. When faced with the prospect of certain punishment they burst into tears, or more frequently assume a swagger which invariably causes many hands to itch with the desire to apply a piece of rubber hose to an inviting and tender part of their anatomies. Some chaplains are strongly in favor of this method of correction for such youthful culprits. It is authorized for boys under a certain age in the British Navy, but unfortunately such a procedure does not elevate the morale of an institution which trains a man for a man's work.

The commanding officer is powerless to correct such offenders in a way which will redound to their moral benefit. Words have no effect, while a brig sentence may be what they are looking for. It is a source of regret and irritation to see youngsters endeavoring to attain to manhood by such means. It would be better if the laws for recruiting prohibited the enlistment of boys under the age of 18.

Much of the foregoing is beside the subject. From a militant viewpoint the navy needs no defence of the moral training of its

enlisted personnel. Reputation is one thing; character is another. In some particulars the reputation of the service is not enviable, but its character is unassailable. The high character, exemplified by the incarceration in penitentiaries of men who commit unmentionable offences, is responsible for the poor reputation. Does any civil community so discriminate between character and reputation? Perhaps if the navy guarded reputation more and character less it would be less open to criticism.

This subject cannot be dismissed without a reference to the prevalence of very objectionable language among a certain class of enlisted men. Of course, perfection in this respect can be comparative only, but it is quite generally recognized that there is a wide gulf between mild profanity and obscenity. Throughout the country there is a class of men who, in every-day conversation among themselves, use vile and obscene terms as casually and freely as they use the most common terms in the English language. In fact, the vilest epithets may be used without causing offence, and often will be accepted as an emphatic expression of pleasure at the meeting of friends.

Some men bring this habit of conversational filth into the navy with them. But in a military service, where some must command and others must obey, it is an entirely different habit from what it is in civil life, where all are on terms of equality. Mental processes are different in the service. More insubordination can be traced to the resentment caused by foul language than to any other single cause. Therefore, foul language should be suppressed, not only for reasons of decency, but also for reasons of discipline and material and moral welfare of the men.

No man in a subordinate position, who is thereby denied the right to reply in kind, can submit to foul language or direct personalities of any kind, without losing some self respect. The man who lacks self respect will never be a desirable man for the naval service. Conversely, no man in authority can use language toward a subordinate which tends to lower the subordinate's self respect without lowering himself still further. Officers frequently fail to use the necessary vigor to suppress this fault in otherwise excellent men, presumably because they do not wish to nag. But it is confidently believed that any officer who probes to the bottom every case of insubordination between petty officers and men will find that foul language is the most frequent con-

tributing cause. He will speedily realize the military necessity of suppressing the spread of this filthy habit.

EDUCATION

Education, in general, is a subject of varied possibility which keeps many of the brightest minds in the country extremely busy. In the navy it is one of unlimited possibilities, and difficulty, which is complicated by naval needs, inadequate facilities and lack of time.

It is not the purpose of this article to discuss education from the viewpoint of education, but solely from that of military and naval efficiency. In a few ratings in the modern navy, men are needed who have at least a good common school education. In nearly all ratings men are needed who possess that degree of intelligence which only conscientious effort on the part of the individual can develop. If the individual does not have this degree of intelligence when he enters the navy, it would be a waste of time to try to develop it, because by the time the task were half completed his term of enlistment would have expired.

The need of education in the service along purely professional lines is apparent from a consideration of the *inexact* information possessed by the bulk of the enlisted personnel. The majority of the ordinary seamen and coal-passers do not realize the extent of the future unnecessary work made by painting over an improperly prepared metal surface; they (and others) do not know that they must make *two* salutes when coming over the gangway onto the quarter deck; and they do not know that the custom of the service requires that they embark in a boat before, and disembark after, an officer. If they did know, many of them would not expose themselves to humiliating correction, and many officers would hesitate less to correct them.

The foregoing are examples of a prevailing sort of ignorance existing among men, especially among those who are inexperienced. In order to get the full benefit of instructions to eliminate such ignorance, it is necessary that men be in a receptive mood, which will invariably be the case as long as promotion depends upon exact knowledge as well as efficiency. Without doubt the system of examination for promotion to the various ratings prescribed in General Order No. 63 has done more to elevate the standard of efficiency and discipline than any other measure of recent years.

Among recruits there seem to be about as many different relative degrees of advancement in learning as there are men. Some are densely ignorant, some left school at an early age, some completed grammar and high school, some had entered college and a very few had graduated from college. All seem to have forgotten much that they had previously learned, which is not at all surprising. How many men who have busily engaged in their every-day affairs for a number of years can remember how to parse a sentence, the correct use of shall and will, how to extract a cube root, or know the location of the Obi River, Poyang Lake, Santa Maria Bay, or recollect anything about Charles Martel, Rameses II, the Battle of Austerlitz, or the like? The memories of 19 out of 20 men are vague upon such points.

About 19 out of every 20 recruits seem to like to attend school, but the suspicion is slowly forming that they prefer the sheltered ease of a comfortable desk to infantry drill, Swedish exercise, or pulling in a boat. Perhaps the same liking may exist among an equal percentage of men in the fleet when hard work is in prospect.

In order to achieve a measure of success worthy of the name, it is essential that the men be in a willing and receptive mood. This is generally the case in regard to professional instruction, but there frequently seems to be a passive hostility toward the academic. One instructor can lead a recruit to the fountain of knowledge but 10 cannot make him drink. Considering the limited time devoted to education it seems that the amount of knowledge gained is woefully small.

Although a few are old enough to realize the handicap of ignorance and conscientiously try to learn, they are held back by the many who are wholly indifferent. The number of ensigns who serve as instructors is wholly inadequate for a continually changing body of men numbering from 600 to 1300. Consequently, they are required to scatter effort indiscriminately over an unproductive field. To a certain degree they are powerless to compel studious application. They may put men on the report for sleeping, they may compel them to sit up and look into their books, but they cannot force knowledge into non-receptive intellects. The few who are receptive are usually in the advanced class, and they frequently lose interest, due to the fact that the instructors must neglect them in order to maintain order among the other men.

If the elementary professional instruction necessary for the every-day routine duties of a ship (which would require about one hour per day at training stations, and about one drill period per week in the fleet) were made compulsory, and the academic and advanced professional instructions were made voluntary, a concentration of effort by both instructors and ambitious men would be possible which could not fail to benefit the service. If we are to believe the often heard statement that honorably discharged bluejackets have a comparatively easy time in finding employment, there is no doubt that a man's service in the navy is of future and lasting benefit to him in civil life. Education is desirable from the standpoint of discipline and efficiency. It may be desirable also from the standpoint of altruism, but it is difficult to reconcile this view with the patriotic conviction that the personnel of the navy owes more to our country than the navy owes to its personnel.

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U. S. NAVAL INSTITUTE, ANNAPOLIS, MD.

KAPOK

By NAVAL CONSTRUCTOR A. B. COURT, U. S. Navy

The vegetable fiber commonly known as "kapok" has, during the past few years, come into very general use in the navy as a stuffing fiber. There are now found, as standard equipment, kapok hammock mattresses, bunk mattresses, pillows, cushions, and life preservers, besides various experimental articles such as waistcoats and headgear for aviators. The quantities utilized each year are increasing rapidly and the present indications are that within a few years it will, in our service, entirely displace all other stuffing materials.

The name "kapok" has unfortunately been applied to many fibers closely related in appearance and in botanical origin. Some of the impostors are very inferior in the qualities for which the true kapok is valuable and have to be guarded against in purchasing. The true kapok is the fiber of a tree of the Eriodenron family, whose name, according to the best authorities, is *Ceiba pentandra*. This tree is indigenous to Central America and perhaps the West Indies; indeed, the word ceiba is Haitien in origin. But the cultivation of the tree has reached its greatest extent in Java, into which it was doubtless imported several hundred years ago.

Java is at present the world's principal source of supply, and is practically the only place where any very great quantity is marketed. There the raising, preparation and export of kapok is one of the principal industries of the island, Soerabaya being the port from which the greatest exportation emanates.

Those interested in the kapok industry in Java make strenuous efforts to have the use of the name restricted to the product of the tree *Ceiba pentandra,* particularly, perhaps, because India exports considerable quantities of a similar fiber of lower grade and price, the product of the Simul tree.

The true kapok grows upon a large tree in pods something like the horse-chestnut. The pods are in clusters, and when they are ripe the pods split, the outer envelope shrivels somewhat and reveals the fiber and seeds within. The seeds and fiber grow attached to a central core inside the pod, but the fiber is not attached to the seeds as in the case of cotton. If left on the tree, the pods ultimately open so that they allow the fiber to be blown out by the wind, carrying the seeds with it, so distributing the seeds.

When the kapok is gathered for market, however, the pods are taken from the tree before they arrive at this stage of maturity. They are opened by hand, the fiber and seeds separated by beating, sometimes with wands or branches in the hands of low-priced laborers, and sometimes by machine-driven paddles in a large drum or cylinder. When the hand process is used it is carried on inside of an inclosure of netting which prevents the downy fiber from being blown away. During the process the seeds, particles of dirt, fragments of husk and core and pieces of twigs drop to the bottom of the mass, leaving the fiber clean and clear on top.

The fiber is then allowed to dry thoroughly in the sun, after which it is baled much as our cotton is baled in this country, but with cruder methods and materials. Frequently kapok, sent out by Chinese growers, appears here enveloped in matting and bound by bamboo hoops, or grommets made of grasses; the European vendors generally use burlap and steel hoops, or ties.

The seeds furnish, when crushed, a considerable quantity of edible oil, somewhat on the order of our cotton-seed oil, and are of considerable value as food. So far as the writer knows the seed products are not exported. It is said that the fiber itself is used in some parts of Europe in the manufacture of felt, and also that in Germany it has been successfully used in textiles, where, however, its short staple and brittleness make its use difficult.

The most valuable characteristic of this fiber, from the maritime standpoint, is its buoyancy. One pound of kapok will, roughly, support 20 to 30 pounds in fresh water, and will not entirely lose its buoyancy when wet for several weeks. Various theories have been advanced to account for this, but the most plausible seems to be that based upon the surface-tension theory, that is that the fibers are wet very slowly in water so that they displace a volume considerably greater than their own actual cubic contents. It is noted by experiment that when packed firmly, but not tightly, into an

envelope, as for example, ticking sewn together in the form of a pillow, the weight supported in water is practically as great as if the envelope were rigid, empty and water-tight. In other words, kapok, when held in mass with moderate firmness, excludes water from the entire volume, moreover it was found that doubling the quantity of kapok in the test cushion did not increase its buoyancy. It is noticeable, too, when kapok is put under gradually increasing hydraulic pressure, that a point is reached at which the object sinks to the bottom. When pressure is released the object rises, but if the pressure is further increased a condition will be attained in which the object sinks and remains on the bottom. This can be explained by the surface-tension theory. When the pressure is applied, if it is not too great, the water presses upon the mass of fiber from all sides and compresses the whole mass to such an extent that it no longer displaces the requisite amount of water to enable it to buoy up itself and its envelope. When the pressure is released the whole mass of fiber expands and its buoyancy increases. When the pressure is considerably increased, however, the surface tension of the mass, and possibly of the individual fibers, is broken down, the water wets each fiber, and its buoyancy is reduced greatly and remains at this low point until the fiber is thoroughly dried out, even if it is then restored.

This fiber is especially desirable for stuffing both afloat and ashore on account of its resiliency, its freedom from organic dirt and vermin and the ease with which it can be renovated and washed. Its resiliency makes it, in mattresses, extremely comfortable to sleep upon. The other two qualities above mentioned make it perhaps the most sanitary stuffing material known. Care has to be exercised in tufting the mattresses, however, to keep the stuffing from "crawling."

When kapok is loose it is highly inflammable and the dust from it during its repicking and "fluffing-up" process, is said to be explosive. One manufacturer in Philadelphia who has been working it for many years told the writer of a fatal explosion in his plant due to the arcing of an electric switch in a room filled with such dust. But when packed firmly, as in a mattress, it is probably no more inflammable than hair.

Its extreme lightness makes the kapok in a mattress cost less than hair for the same mattress. It is not quite so cheap, computed on a like basis as cotton, but is much superior in every other way.

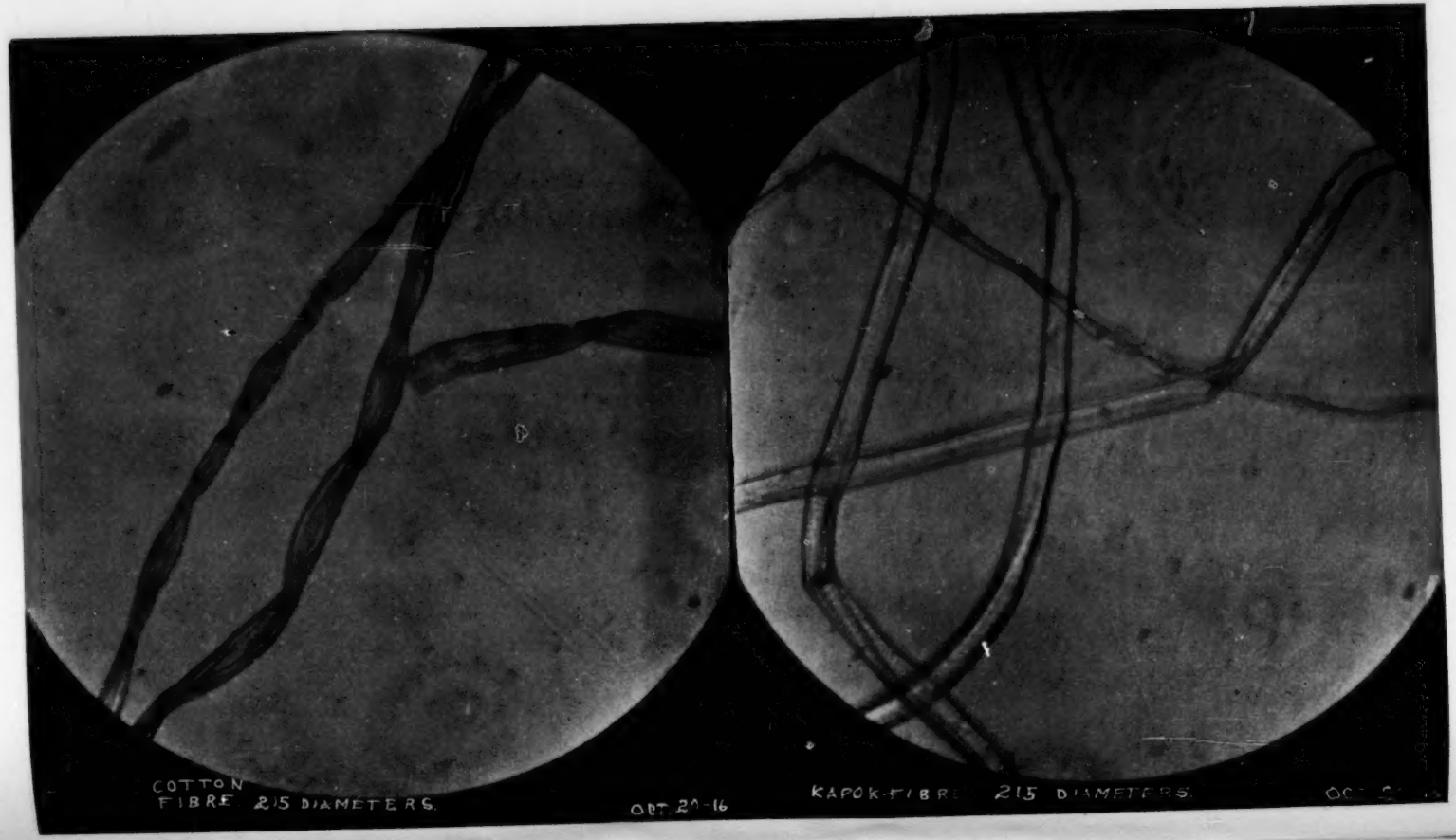
In the purchase of kapok under the Navy Department difficulty was at first encountered by the lack of specifications upon which to purchase. The material is usually graded according to the district in which it was raised, as Japara, Madoura, Semarang, Porrong, Soerabaya, etc., and the standard was "prime Japara." Importers have informed the writer that they can specify, in their purchases in Java, "fair average crop of the season," which is vague to say the least. Specifications, however, are gradually being developed, which allow real competitive bidding and assure a grade suitable for naval requirements. In this, buoyancy is the determining factor, and no kapok which does not show a buoyancy of 25 pounds when one pound is packed in a pillow ticking $13'' \times 13'' \times 4''$, after 24 hours in water, and retain a considerable portion of this buoyancy after being barely afloat for two weeks, should ever be accepted as naval stuffing fiber. The microscope is useful also to detect adulteration; kapok shows a straight, untwisted, cylindrical, unicellular structure, with thin walls, tapering from a large end to a point, whereas cotton shows a flat, twisted, ribbon-like fiber, with much thicker walls.

The color, luster, resiliency and cleanliness of the fiber all have to be considered. The first two are particularly hard to describe in specifications and can be judged only by an expert. But, in general, it is not safe to accept a dead, lusterless kapok, as it invariably lacks resiliency, powders, breaks and balls up easily, and is deficient in buoyancy initially and protractedly.

Dutch writers state that the importers of Amsterdam, which is the principal market for kapok, will not accept fiber which has been compressed to a density greater than about 9.35 pounds per cubic foot, but heretofore American importers have made no such restriction. The more densely the material is compressed the less the freight, so the tendency on the part of the importers is to compress it as much as possible. The Dutch buyers evidently consider that excessive compression is detrimental, but, owing to the difficulty in obtaining in America any kapok so loosely shipped, experiments looking toward the determination of the effects of great compression have not yet been carried out, although efforts are being made to do so.

Like most tropical trees, the Randoe, the name by which the tree that bears kapok fiber is called in Java, has frequently upon its branches at the same time fruit in various stages of maturity, from

SILK FIBRE 215 DIAMETERS
OCT 20-16
WOOL FIBRE, 215 DIAMETERS
OCT. 20 1916


COTTON
FIBRE 215 DIAMETERS.
OBT 20-16
KAPOK FIBRE 215 DIAMETERS.

the blossom to the ripened pods. Over-ripe, green and wind-fallen pods are said by Dutch writers to produce an inferior grade of kapok. Probably the curing, the density of packing and the method of refluffing and stuffing into envelopes all have an effect upon the buoyancy and the durability; therefore, all of these points need to be considered in purchase and manufacture.

In the use of kapok-stuffed articles, in service, precautions need to be taken to prevent them from being wet for any great length of time, as kapok rots under such conditions, and to prevent exposure to fire. Reports from the service generally indicate that kapok has found favor, and there seems to be little doubt but that its use will increase.

New sources of supply are being investigated by the Navy Department, as well as other varieties, but results of experiments along these lines are not yet available. For the present it is safest to confine purchases to Java kapok.

DISCUSSION

Battleships

(See Page 1413, Whole No. 165)

Naval Constructor I. I. Yates, U. S. Navy.—The following discussion is offered on above mentioned reference, which I would like to see published to correct certain statements appearing in the text, which appear to me to be inaccurate:

Historical (Paragraph 6).—*"Eight guns appear too few for a battleship."*

This appears to be a too summary dismissal of a much mooted point. The argument for having but eight guns is that there are but four good gun positions and that twin turrets are preferable to triple and quadruple. The designers of this school would prefer to increase the caliber of the guns rather than add to the number of turrets if the armament weight is allowed to increase.

Strategical (Paragraph 1).—*"The Delaware's are the equals in cruising radius of the Arkansas's and probably of the Pennsylvania's."*

The *Pennsylvania* has a cruising radius of 10,000 miles at 10 to 12 knots, whereas the *Delaware's* cruising radius is 7800 miles at 10 to 12 knots.

Tactical Speed (Paragraph 3).—*"In brief, then, increased speed is paid for in the direct weight to provide the machinery for the increased horse-power, the additional weight of hull to give the length and form that enable the vessel to be driven at the higher speed, the consequent reduction of armor thickness or the smaller area of the ship protected, and lastly, in the reduction of gun power forced by the less weight that can be allowed the armament."*

This conclusion is misleading. To continue the author's illustration of 16 *Delawares* to 10 *Pennsylvanias* it may be pointed out that both types have the same speed. The *North Dakota* (*Delaware's* sister ship) has 31,300 SHP. against 31,500 SHP. for the *Pennsylvania, i. e.,* practically the same. In other words, the 10 *Pennsylvanias* require $6 \times 31{,}000$, or 186,000 SHP. less than the 16 *North Dakotas* to make the same speed. The increase in displacement from the *Delaware* to the *Pennsylvania* was primarily for the purpose of increasing the armament, but this increase in size occasioned no increase whatever in weight of propelling machinery.

Protection (Paragraph 2).—*"Our latest battleships have a belt armor of 14 inches and turret port plates of 18 inches in thickness, by far the heaviest armor known to have been placed upon vessels."*

This is true of the *California,* but the author fails to state that the *Delaware* could not be given this protection without sacrificing either her speed or armament.

(Paragraph 3).—"*The problem of preventing the modern battleship from sinking when hit below the water-line is still far from solution.*"

It is believed that this problem is fairly well solved for large battleships, and that the *California* could not be sunk by several 400-pound mines. After noting that the *Goeben* (larger than the *Pennsylvania* in linear dimension) had survived two mine explosions the author goes on to say:

(Paragraph 4).—"*. . . . the smaller battleship is as well protected (as the larger) against the mine and torpedo, and therefore a larger number of smaller battleships is better than fewer large battleships.*"

This statement may partly be based on the *Audacious,* which could have been saved in fair weather, but is certainly not based on the *Goeben's* experience also cited, nor on that of the *Marlborough.*

(Paragraph 5).—"*The gun and the torpedo are still in the ascendancy over armor.*"

This has not proved to be the case at fighting ranges in the present war—witness the battle of Jutland, where not a single modern battleship was sunk.

(Paragraph 5).—"*. . . . the present heavy, thick plates of armor, that are all too liable to be jarred from the securing bolts.*"

No case of this can be recalled either in the Russian-Japanese War, the present war, or the target experiments conducted at this yard (Norfolk).

CHANNELS (Paragraph 5).—"*A damaged battleship may draw 35 to 40 feet of water, and an anchorage in still water would enable repairs to be made by the caisson method. Such anchorages practically do not exist on our coast.*"

Such anchorages do exist both in Puget Sound and Chesapeake Bay.

DRY DOCKS (Paragraph 2).—"*. . . . time required to build (New York, Norfolk, Bremerton and Pearl Harbor docks) was seven years.*"

This was not the case at Norfolk and Bremerton, as the dock at Norfolk was built in five years (from 1903 to 1908), although it was afterward lengthened. The Bremerton dock was built in five years, although while under construction ordered longer than originally planned.

(Paragraph 3).—"*The channel abreast the Norfolk dock is but 525 feet in width, so that docking a large battleship is hazardous business and a fine, seaman-like bit of work. The Pennsylvania has been docked and undocked at this yard by placing her diagonally across the channel and at an angle to the length of the dock. The slightest mishap would result in serious damage to the vessel.*"

The channel is about 800 feet wide abreast the dry dock. The *Pennsylvania* entered the dock diagonally as she was pointing up stream, coming to the dock, and time was saved by not waiting to straighten her out at right angles. However, when she undocked she was brought out to her full length at right angles to the channel.

COST—TABLE VI.

Table (a) is modified by neglecting the *Florida*, as she was built at a navy yard and so swelled the average cost of small battleships, but table (b) was not similarly modified by neglecting the *New York*, which swelled the average cost of large battleships.

MAINTENANCE (Paragraph 1).—"*The yearly maintenance of battleships varies little, and is close to $800,000.*"

This fact should be emphasized, as it nullifies any possible argument for the small ship. Taking the author's figures of $8,000,000 original cost of the *Delaware* and $13,500,000 for the *Pennsylvania*, and considering an active commissioning period of 20 years at $800,000 per year, we have the total cost of the *Delaware* $24,000,000 and the *Pennsylvania* $29,500,000. Is the *Pennsylvania* only 25 per cent more valuable than the *Delaware* with twelve 14-inch guns against ten 12-inch, 2200 miles more cruising radius, and adequate armor against inadequate armor?

PERSONNEL.

This is not touched upon by the author, but it should be pointed out that about the same number of officers and men are needed whether the battleship be large or small—which is a vital question considering the small naval reserves available to fill war casualities, and is also of importance in adding up the cost of the navy in peace time.

THE SUMMING UP.

Conclusions 2, 3 and 7 are considered erroneous and 4 and 5 not proved.

COMMANDER RALPH EARLE, U. S. Navy.—The remarks of Naval Constructor Yates are noted and the following in the way of rebuttal is written with the hope that some misunderstandings of the writer's position on the subject may be thus rectified.

At the outset it must be realized that a *Delaware* and *Pennsylvania* built at the same date are compared; not a *Delaware* of 1907 with a *Pennsylvania* of 1912. Oil fuel, lighter machinery per horse-power, better form of hull, better guns, mounts and armor, and underwater protection against torpedoes make the smaller battleship discussed a better vessel than our present *Delaware*.

To properly discuss whether or not eight major caliber guns are too few for a battleship would require an essay in itself. The writer had made an analytical study of the subject as regards tactics, volume of fire, probability of hitting, lessons of recent naval battles, and foreign practice, with the result that he considered eight 16-inch guns inferior to twelve 14-inch.

The cruising radius of the oil-burning *Delaware* to all intents and purposes will be practically equal to the *Pennsylvania*. The actual steaming radius of over 7800 miles of the former may well be found to equal the estimated 10,000 miles of the latter.

The horse-power required to drive the vessels will be a different figure where forms of hull and types of machinery both include modern advances.

The smaller battleship would not carry as thick armor as the larger in all probability; but, is the excessive thickness of armor of any great advantage? The value of armor over six or eight inches thick is not known. Heavy shells seem to play havoc with armor, and it may be that the solution found will be to have only sufficient armor to keep out projectiles of seven inches and below. The underwater construction now adopted in battleships would be applied to all, and the smaller ship made as invulnerable against torpedoes and mines as is the larger. If the *Audacious* could have been saved in fair weather, it were best our battleships took only the good, not the dirty weather in which to fight. They cannot choose, however. If heavy seas caused the *Audacious* to sink, the calm sea similarly saved the *Marlborough*. The Goeben's powers of resisting torpedo attack appear equal to those of the larger vessels just mentioned, and hence there is a strong probability that the *Delawares* of modern construction would resist torpedoes as long as would the *Pennsylvanias*.

The reason no battleship was sunk in the Jutland Battle is clear. The English battleships got into action late and fired at the Germans for 15 minutes before the latter realized it, then fog and haze obscured the battle. From all accounts, the battleships were engaged but a little and hit but little, and even with that the *Warspite* was badly damaged. There is no real evidence as to how long a battleship will withstand heavy gun fire.

Naval Constructor Yates has apparently forgotten the instances in the Russo-Japanese War where armor plates fell off the ships' sides. It was the *Osliabia*, as the writer recollects, that lost a belt plate upon the third impact.

As regards channels; is it good policy to build ships larger than the channels will allow to enter and leave port at will? This consideration is the most weighty one in the whole subject. The instances cited show the nation's deficiency in deep harbors. One port on the Pacific would hardly do as a refit station after a battle off the Atlantic coast. The writer is aware of the deep anchorage in the Chesapeake—there are several of them—but fails to see how that can do the fleet any good, as the entering channel through the Capes claims but a doubtful 35 feet of water.

Dry dock building time was taken from various authorities; but even if it be only five years the argument is as pertinent as though it took seven or ten.

The width of the channel at Norfolk and the warping in of the *Pennsylvania* was taken from reliable sources, and even though 800 feet wide there is hardly the margin of safety that ought rightly to be expected when docking a large vessel.

Battleships cost approximately the same per ton of displacement, and the author should have used that figure. The *New York* only cost $293,506.71 more than did the *Texas;* while the *Florida*, that was discarded in the reckoning, cost $2,052,821.45 more than her nearest vessel; surely discrepancy of sufficient size to warrant discarding her in obtaining an average.

The maintenance argument is against a fleet of smaller battleships. The channel inadequacy, however, more than offsets this, as well as the argu-

ment for the personnel. Each officer must weigh the arguments as he deems best. The final analysis is the battle, and such a one off our coast might well be so near a draw that the side which repairs the more speedily would be enabled to re-take the sea and win an early and decisive victory. It may be that channels will be dug and docks built, but the present outlook in that direction warrants one being a trifle pessimistic. If the arguments for gun fire and tactics are correct, then it follows that the maximum ship that can enter harbor to refit after an engagement is the type to build. This type appears to be between 23,000 and 27,000 tons at present.

In conclusion the writer cannot but believe that his items 2, 3 and 7 are still quite accurate, and that 4 and 5 are most certainly proved.

It must be remembered that one cannot have the maximum of everything at one time, and that a compromise, no matter how unwelcome it may be, must be made.

U. S. NAVAL INSTITUTE

SECRETARY'S NOTES

Monthly Institute Proceedings

The present issue of the PROCEEDINGS is the first in the new monthly form. While no radical innovations are contemplated, the following minor changes will take place:

The PROCEEDINGS will show a slight growth in volume, and the amount of material published during the year will be about 10 per cent greater than that of the past year.

Complete tables of losses of vessels will be published quarterly, though additions and corrections to the tables will be published monthly as they occur.

The tables of vessels building and authorized, though greatly circumscribed, due to suppression of official information on these subjects, will be maintained and checked up by all information obtainable through authorized channels.

Lists of Prize Essays, Lists of Articles Related to War College Work, Professional Book Lists, and others of like nature, will be published only at intervals instead of in each number. This will leave more space available for Articles and Professional Notes. In order that ready reference may be had to such lists, a brief Information Index will be published following the Secretary's Notes in each number.

Suggestions Invited

Pursuant to the adoption of the monthly form, comment and suggestions relative to the make-up of the PROCEEDINGS are invited from all members who may be interested. Furthermore, it is believed that the scope of usefulness of the PROCEEDINGS to members of the Institute can be increased and all members are invited to assist in this work. Should any topic, on which you think an article could well be written, occur to you, send it to the Secretary and Treasurer, together with such explanation or comment as may appear desirable in order that the intent of the suggestion may be clearly understood. The Institute is desirous of obtaining good "sea yarns" for publication. It is hoped that any one who can spin such a yarn will submit it.

Growth and Support

If it is granted that the Institute is fulfilling—even to a slight degree—its object of advancing professional, literary and scientific knowledge in the navy, then it must also be granted that the obligation of every one in the service to become an active supporting member is undeniable.

The reason then that the Institute needs all the support the service can give is a more weighty one for becoming a member than is the consideration of individual benefit received from the receipt of the PROCEEDINGS and Institute publications.

The Institute aims to present material which is for the general interest and education of every one in the naval service, the militia, the reserve and the body of civilians interested in the service. The Institute's increased support then must come from the following sources:

The commissioned personnel of the navy and marine corps as regular members,

The enlisted men of the regular service, who may become subscribers, the subscription being the same as dues for members,

The coast guard, naval militia and naval reserve, members of which may become associate members, and

Civilians interested in naval subjects, the development and expansion of the naval service, who may become associate members.

Members are, therefore, earnestly urged to lend an active hand towards the expansion of the Institute:

(a) By bringing the benefits of membership before those entitled to become members, and then in recommending the PROCEEDINGS to such of their friends as are interested in the navy.

(b) By giving the Institute the benefit of articles, professional notes, experiences, and illustrations, and by recommending that others do so.

(c) By making use of the book department of the Institute, and in suggesting its use as well as the use of the information bureau to others.

(d) By patronizing the advertisers who show their interest in the Institute and the service by helping to carry the former; mentioning the Institute in answering advertisements; and recommending the Institute to advertisers.

This appeal is not inserted for the purpose of filling up space; it is hoped that it will attract the eye and appeal to the reason of at least one member on every ship and station, who will voluntarily take up the task of actively advancing the work of the Institute. Personal responses will be appreciated by the Secretary.

Membership

Since November 16, 1916, 318 regular and 82 associate members have joined the Institute. The bulk of the new regular members come from the midshipmen of the classes of 1917, 1918, and 1919; the associate membership gain is largely from the ranks of those civilians who took the training cruise during the fall months, 1916.

The following members have died:

Rear Admiral J. P. Merrill, U. S. Navy, December 8.

Mr. W. H. Jacques, November 23.

Bureau of Information

The Institute offers its services as a "Bureau of Information" on professional questions and will endeavor to obtain replies from the best qualified sources. Those "Questions and Answers" which are suitable for purposes of general information, will appear in the PROCEEDINGS. It is suggested that knotty questions which come up in professional examinations for promotion may well be submitted to this department.

Book Department

The Institute Book Department will supply any obtainable book, of any kind, at retail price, postage prepaid. The trouble saved the purchaser through having one source of supply for all books, should be considered. The cost will not be greater and sometimes less than when obtained from dealers. Bills will be rendered upon delivery of books.

Professional Books

The Book Department is compiling a list of professional books by subjects, and is prepared to submit lists of standard works to members and subscribers desiring such information. Lists of these books will be published from time to time.

Illustrations Authors of articles submitted are urged to furnish with their manuscript any illustrations they may have in their possession for such articles. The Institute will gladly co-operate in obtaining such illustrations as may be suggested by authors.

Original photographs of objects and events which may be of interest to our readers are also desired, and members who have opportunities to obtain such photographs are requested to secure them for the Institute.

Annual Dues The annual dues for 1917 become payable on January 1, 1917. It is suggested that dues be paid in lump sums covering a period of two to five years; this method of payment has advantages for members as well as for the Institute and is practiced by a number of members, both regular and associate. Response to this notice will save the Institute a considerable sum in stationery and postage.

Notice Whole Nos. 145, 146, 147, 149 and 155 of the PROCEEDINGS (March, 1913, June, 1913, September, 1913, January-February, 1914, and January-February, 1915) are exhausted; there are so many calls for single copies of these numbers that the Institute offers to pay for copies thereof returned in good condition at the rate of 25 cents per copy.

Address of Members Members, especially those on the retired list, and civilians are urged to keep the Secretary and Treasurer informed of the address to which PROCEEDINGS are to be sent, and thus insure their receipt.

Non-receipt of Proceedings Members and subscribers are urged to notify the Secretary and Treasurer promptly of the non-receipt of PROCEEDINGS, in order that tracers may be started. The issue is completed by the 10th of the even numbered month.

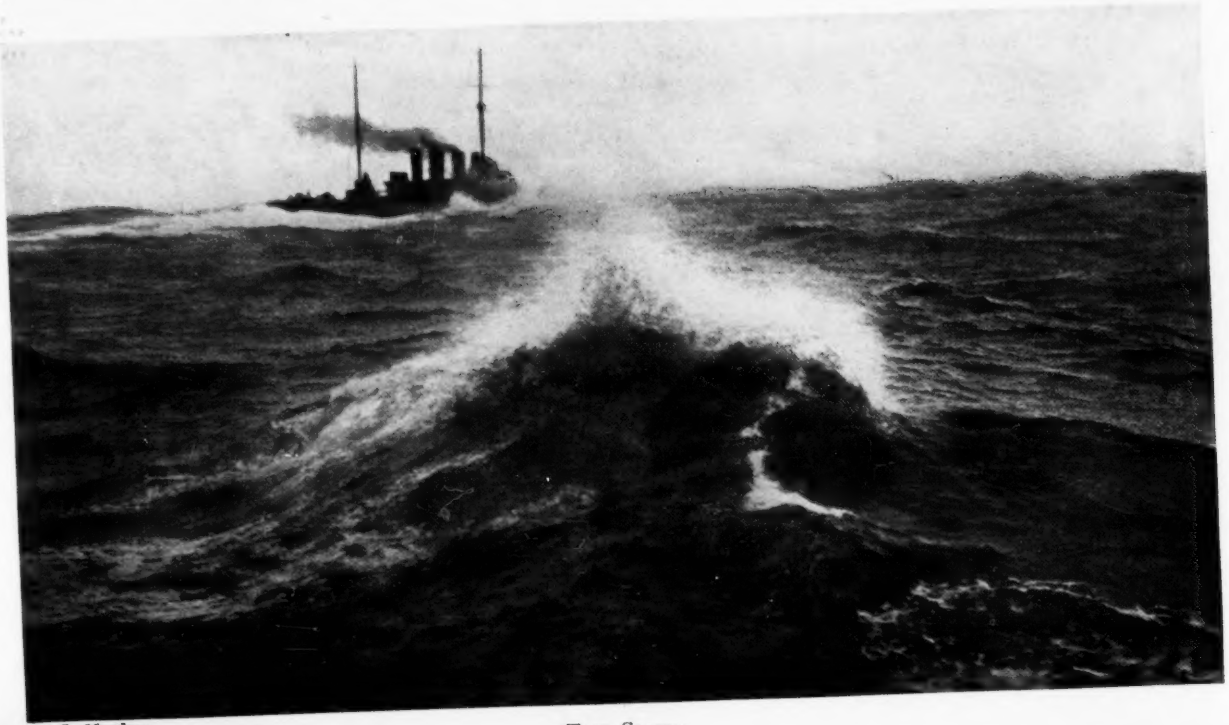
Reprints of Articles The attention of authors of articles is called to the fact that the cost to them of reprints other than the usual number furnished, can be greatly reduced if the reprints are struck off while the article is in

press. They are requested to notify the Secretary and Treasurer of the number of reprints desired when the article is submitted. Twenty copies of reprints are furnished authors free of charge.

Notice to Newsdealers

The discount to newsdealers is now 10 per cent, instead of the 25 per cent heretofore allowed on subscriptions.

ANNAPOLIS, MD., December 18, 1916.



E. J. Mowlam

THE SCOUT

PROFESSIONAL NOTES

Prepared by LIEUTENANT R. S. EDWARDS, U. S. Navy

GENERAL ARRANGEMENT

PAGE

VESSELS BUILDING.
- Austria 141
- France 141
- Germany 141
- Great Britain 142
- Holland 144
- Italy 144
- Japan 145
- Russia 145
- Spain 145
- United States 145

CHARACTERISTICS OF NAVAL VESSELS AND AIRCRAFT.

ORGANIZATION OF THE NAVY.

ACCIDENTS.

PERSONNEL.

UNITED STATES NAVAL MILITIA AND NAVAL RESERVE 161

THE NAVAL TRAINING ASSOCIATION OF THE UNITED STATES 162

ORDNANCE AND GUNNERY 171

ENGINEERING 171

SUBMARINES 178

AERONAUTICS 178

LESSONS OF THE WAR 184

MERCHANT MARINE 185

CURRENT NAVAL AND PROFESSIONAL PAPERS 186

AUSTRIA

VESSELS BUILDING.—Nothing is known about the ships now building in Austria.

FRANCE

VESSELS BUILDING.—Nothing is known about the ships now building in France.

GERMANY

VESSELS BUILDING.—Nothing is known about the ships now building in Germany. The following from the *Army and Navy Gazette* gives an idea of British opinion on German ship construction:

"There is some uncertainty as to whether the new ship which the Germans are reported to have launched is a battleship or a battle cruiser. It is evidently one of two ships of the 1914 program, of which the battleship was to replace the *Kaiser Friedrich III* and the battle cruiser the *Victoria Luise*. If so, the launch is rather belated than otherwise. Two years is a long time for a man-of-war to be on the building-slip nowadays. The average time occupied by the twenty-odd dreadnoughts which Germany put afloat before the war broke out was only some 15 months. If, therefore, the *Bayern* is not a new ship altogether, or does not belong to a later program, the circumstance seems to point to the shipbuilding resources of Germany having been devoted in the main, as already suggested in these columns, to the construction of torpedo craft and submarines during the past two years. Only three vessels of the larger types have taken the water,

THE SCOUT
E. J. Mowlam

so far as is known, since the war began, the battleships *Erstaz-Wörth* and *T*, of which one was named the *Wilhelm II*, and flew the flag of Admiral Scheer in the Jutland battle, and the battle cruiser *Hindenburg*, and all of these were under construction before the outbreak of hostilities. Any new departures to which the German shipbuilders and marine engineers have turned their attention must, therefore, concern the lighter craft of the fleet. Apart from the large number of submarines which have been turned out, there are destroyers of new and improved types, such as those which carried out the Channel raid last month, and those which penetrated into the Gulf of Finland on November 10. A number of small torpedo-boats have also been built for patrol duties, and have made the raids from Zeebrugge upon the Anglo-Dutch steamship and mail traffic. Bearing in mind the nature of the strategy imposed upon them when the British fleet seized the initiative at the beginning of the war, it was natural for the Germans to turn their attention to types of warcraft most suitable for the war of attrition. Moreover, there is evidence that they did not expect the campaign to last long enough to give them time to build big ships. But submarines, minelayers, destroyers and vedette-boats for outpost duties they could provide, and apparently have done.' It does not follow, of course, that we need not trouble to continue battleship building. We should increase our battle strength as much as possible, not only because the superior fleet has always, in the exercise of its superiority, to accept a greater margin of risk, but to increase the certainty of delivering a knock-out blow when 'the day' comes."

GREAT BRITAIN

VESSELS BUILDING.—Nothing is known about the ships now building in Great Britain.

CHANGES IN NAVAL COMMAND.—Admiral Sir John R. Jellicoe, commander of the British fleet, is appointed First Sea Lord of the Admiralty, being succeeded in command of the Grand Fleet by Vice Admiral Sir David Beatty, who commanded the British battle cruiser squadron in the Jutland naval battle. Admiral Sir Henry B. Jackson, the present First Sea Lord, has been appointed president of the Royal Naval College at Greenwich.

The announcement of the change in command of the British Grand Fleet was made this afternoon in the House of Commons by Mr. A. J. Balfour, First Lord of the Admiralty. Mr. Balfour said there would be consequential changes also in the Board of Admiralty.

The decision involving the appointments of Admirals Jellicoe, Beatty and Jackson was taken some time ago, Mr. Balfour said, but for military reasons the announcement was delayed.

On being asked whether the changes in the Admiralty meant other changes in higher commands, Mr. Balfour replied that undoubtedly there would be changes, which would be announced in the ordinary course.

The changes will be greeted enthusiastically by the country. They were not unexpected, as recently there has been a demand for an infusion of new life on the Board of the Sea Lords at Whitehall. The case, as presented by the critics, was that none of the Sea Lords had had active service afloat during this war, that more than two years of warfare had brought about radical changes in methods and that the active direction of the fleets by the Admiralty should be in the hands of officers who had participated in and worked out the latest style of operations.

Since the government apparently recognized the force of these criticisms, Admiral Jellicoe's appointment as First Sea Lord is the logical result.

Sir David Beatty's promotion to the command of the Grand Fleet gives the government's answer to the criticisms, mostly from abroad, that he showed rashness in the way he threw his battle cruiser squadron into the Jutland fight.

Admiral Sir Henry B. Jackson obtains an honorable and comfortable post. Thus four important figures formerly in control of the navy have passed from Whitehall since the war began. These are Prince Louis of

Battenberg, Lord Fisher and Admiral Jackson, all of whom were First Sea Lords, and Colonel Winston Spencer Churchill, who was First Lord of the Admiralty through it all, although some of the same newspapers which called for Colonel Churchill's retirement have been turning their guns upon him, but from a different angle. They considered Colonel Churchill too impetuous and disposed to interfere with matters of strategy, while they considered Mr. Balfour too slow and conservative.

The changes in the British Admiralty have been greeted with jubilation by the German newspapers, according to an Amsterdam despatch to Reuter's. The Cologne *Lokalanzeiger* declares that Admiral Jellicoe's removal from the fleet is degradation for losing the battle of Jutland, and that the inefficiency of the fleet is shown by the fact that Prussian ships attacked the east coast of England and never saw anything of British ships.—*New York Herald.*

PERMANENT FORCE OF 20,000 BRITISH AEROS ASKED.—Lord Montagu of Beaulieu, speaking recently at Edinburgh, Scotland, on aircraft policy, said that when peace came the British air service must be the last to be reduced. A naval invasion might not come, but by means of 100 airships it might come on a scale infinitely larger, which it would need all the British aircraft forces to repel. Of 2000 miles of coastline, at least 1000 would have to be defended by aircraft. If in the country a permanent force of 20,000 aeroplanes existed, the cost would not be more than $75,000,000.

He also said that England had reached the position when the Air Board should be given control at least of the supply side, and there should be one united air service for the country. He looked forward to an imperial air service. England should not only be strong and well armed, but the air service must take front rank in protecting the empire.—*Aviation,* 1/12.

NAVAL KHAKI.—Khaki is now adopted, with certain reservation, as an alternative "rig" for naval officers. The decision of the Admiralty in this respect, just announced, is not surprising, for it merely extends to general use what has been already done for some time past in certain branches of the naval forces. Thus officers in the Royal Naval Division have, so far as we are aware, been khaki-clad from the first; but this force is now reckoned as a purely military one. By the way, it was stated in the original announcement of Mr. Churchill concerning this division that the uniform of the two naval brigades would be "naval uniform executed in khaki," but this idea was apparently modified a good deal, and those who expected to see the wide trousers and the jumper in the well-known mud-colored material were disappointed. The new regulations only provide for the wearing of khaki uniform by officers. It is left to the discretion of the senior officer to order whether it shall be worn instead of the ordinary blue or white uniform, and, of course, it will only be used for service on shore—there would be no apparent object served by ordering it for wear afloat. As in the case of officers of the Royal Naval Division, the jacket is to be of the same pattern, except as regards distinction marks and buttons, as that of the military service dress, with Sam Browne belt, etc. Presumably the new rule should prove of advantage to officers employed in the transport service at the various ports, and in similar appointments where they are constantly being brought into touch with the military forces.—*Army and Navy Gazette.*

LOWER DECK PROMOTIONS.—It is gratifying to know that as many as 265 warrant officers, petty officers, and men of the Royal Navy and Royal Marines have been promoted to commissioned rank, or have been noted or otherwise put in the way of obtaining such rank, since the outbreak of war. This was the information given by the Civil Lord of the Admiralty on October 18, and we agree with Lord Beresford, who had asked the question which elicited the official figures, that it is very satisfactory that the lower deck has received the recognition which has been so long delayed. The

Earl of Lytton said that 17 commissioned warrant officers of the navy, and two warrant officers of the Royal Marines, had been promoted to commissioned rank for services in action and meritorious war service; 14 commissioned warrant and warrant officers had been noted for early promotion to commissions for services in action; and 232 warrant and petty officers had been promoted to the rank of mate since the war began. This state of affairs is very different to that which obtained during past wars. According to the *Naval Warrant Officers' Manual*, although an Order in Council was made in 1853 authorizing the promotion of warrant officers to commissioned rank for "acts of gallantry and daring in the service," it was not until 1887 that the first advancements under this rule were made, when Chief Boatswain J. Webber and Gunner R. A. Cathie were promoted lieutenants for their services before the enemy. For some time these were the only two officers in the navy who had won their commissions by good service on the lower deck, but since the beginning of the new century the avenue to the quarter-deck has been considerably widened, especially in 1903, when among the many excellent reforms for which Lord Fisher was responsible as Second Sea Lord was the establishment of the rank of lieutenant for 4 per cent of the commissioned warrant officers of all branches, up to a maximum of 100. There were other concessions in following years, until in 1912 came the institution of the "mate" scheme. Referring again to the figures given by Lord Lytton, it would be interesting and inspiring to have a detailed record of the services of the 265 warrant officers, petty officers, and men referred to. Several of them, no doubt, came to the front during the Jutland battle, as the despatches and awards show. On October 25, in a miscellaneous *Gazette*, there were the names of four petty officers promoted to warrant rank in recognition of their services in the battle.—*Army and Navy Gazette.*

HOLLAND

VESSELS BUILDING

Name	Displacement	Speed	Armament	Builders	Remarks
Cruisers					
.....	6000	30	10 6-in.	Amsterdam	
.....	6000	30	10 6-in.	Flushing	

NOTE.—Four submarines are building, three at Rotterdam and one at Flushing, of 836 tons displacement and a surface speed of 17½ knots. The two cruisers were to be built in Holland by Krupp, and it is not known whether or not construction is proceeding.

The budget for 1917 provides for the construction of three more submarines and a mine layer.

ITALY

VESSELS BUILDING

Name	Displacement	Speed	Armament	Builders	Remarks
Battleships					
Carraciolo	30,000	25	8 15-in., 16 6-in.	....	To be completed in 1917
Marcantonio-Colonna.....	30,000	25	same	....	" " "
Cristofaro-Colombo	30,000	25	same	....	" " "
Francesco-Marosini.....	30,000	25	same	....	" " "

NOTE.—In July, 1914, approximately 15 destroyers, two torpedo-boats, and eight submarines were building.

It is probable that the building program has been accelerated and increased since the outbreak of the war.

JAPAN

VESSELS BUILDING

Name	Displacement	Speed	Armament	Builders	Remarks
Battleships					
Ise	30,800	22.5	....	Kawasaki	Launched 11-11-16.
Huga	30,800	22.5	.....	Mitsubishi	
Nagato	32,000	24.0	12 15-in. (?)	Kure Arsenal	

NOTE.—On April 1, 1916, Japan had nine destroyers under construction.

THE ISE.—The *Ise* was launched on November 11. Commenting on this event the *Army and Naval Gazette* says: "The Japanese ship is apparently the third of the *Fuso* class, of which the nameship was launched at Kure on March 28, 1914, and the *Yamashiro* at Yokosuka on November 28, 1915. A fourth vessel is under construction at Nagasaki, the *Huga*. When completed the four battleships will form a very fine and powerful division of the Japanese war fleet. They have a displacement of 31,000 tons, a main armament of 12 14-inch guns, and a speed of 22½ to 23 knots. These are significant figures, which four years ago would have seemed startling, but which are now quite normal, as Russia and the United States, at least, have ships of about the same size in their navies."

SUBMARINE LOST.—The Japanese submarine *No. 4* while returning from the ceremonies incident to the launching of the *Ise* was destroyed in the Inland Sea by a gasoline explosion with the loss of two men and injury of six officers and eight men. According to Jayne *No. 4* was one of the five Holland boats imported from America at the time of the Russian war; these were of 125 tons displacement.

RUSSIA

VESSELS BUILDING.—Nothing is known about the ships now building in Russia.

SPAIN

VESSELS BUILDING.—There are building or projected three 15,000-ton battleships, four 5600-ton cruisers, six destroyers, and 28 submarines.

UNITED STATES

NEW CONSTRUCTION.—Navy Department estimates for 1917 include three battleships of 40,000 tons displacement, mounting 12 16", 50-caliber guns; one battle cruiser, three scouts, 15 destroyers, one destroyer tender, and one submarine tender. The *New York Herald* says that the 40,000-ton battleship is recommended by the General Board, and that Congress will probably authorize this type. Also that the three remaining battleships of the three-year program will be of the same displacement and will be authorized in 1918.

AMMUNITION SHIP PLANS COMPLETED.—The Secretary of the Navy has approved the plans for an ammunition ship, the first craft of the kind ever designed for the United States Navy. She will have a displacement of 10,000 tons with a cargo of powder and shells aboard. Complete arrangements of booms and gears have been provided to permit the vessel to handle its cargo independent of outside assistance, and the powder holds have been provided with insulation and cooling facilities to insure the constant tem-

UNITED STATES VESSELS BUILDING AND AUTHORIZED

Name	Displacement	Speed	Main battery	Where building	% completed Dec. 1	Remarks
Battleships						
New Mexico	32,000	21	12 14-in.	New York	55	
Mississippi	32,000	21	12 14-in.	Newport News	63	
Idaho	32,000	21	12 14-in.	Camden	68	
Tennessee	32,300	21	12 14-in.	New York	4	
California	32,300	21	12 14-in.	Mare Island	7	
Maryland	32,600	21	8 16-in.	Newport News	....	
Washington				Camden	....	
Colorado				Camden	....	
West Virginia				Newport News	....	
No. 49	Characteristics not determined				....	To be begun by July 1, 1919.
50						
51						
52						
53						
54						
Battle Cruisers						
No. 1	35,000	35	10 14-in.	Contracts not let	....	Bids under consideration.
2						
3						
4						
5	Characteristics not determined				....	To be begun by July 1, 1919.
6						
Scout Cruisers						
No. 4	.....	....	.....	Seattle	....	Each carries 4 aeroplanes.
5	7,100	35	8 6-in.	Contracts not let	....	
6						
7						
8	Characteristics not determined				....	To be begun by July 1, 1919.
9						
10						
11						
12						
13						
Destroyers						
Allen	1,071	30	4 4-in.	Bath	94	Delivered 10-11-16.
Wilkes	1,110	29.5		Cramp's	100	
Shaw	1,110	29.5		Mare Island	92	
Caldwell	1,085	32		Mare Island	33	4 triple tubes.
Craven	1,085	32		Norfolk	18	
Gwin	1,123	30		Seattle	11	
Conner	1,121	30		Cramp's	24	
Stockton	1,121	30		Cramp's	23	
Manley	1,085	32		Bath	43	
20 (Nos. 75–94)	1,185	35	4 4-in.	8 Fore River 6 Union Iron Works 4 Bath 2 Not ordered.	....	4 triple tubes.
30 (Nos. 95–124)	Characteristics not determined				....	To be begun by July 1, 1919.
Gunboats						
No. 21	1,575	12	3 4-in.	Charleston	....	
No. 22	Characteristics not determined				....	To be begun by July 1, 1919.

Submarines.

Building 31.
Contracted for:— 3 800-ton coast defence submarines.
27 smaller coast defence submarines.
Authorized to be begun by July 1, 1919:—28 coast defence submarines.
9 fleet submarines.

Vessels of the train.

Building and authorized:—
4 fuel ships,
1 supply ship,
2 ammunition ships,
1 hospital ship,
1 repair ship,
2 transports,
2 destroyer tenders,
1 fleet submarine tender.

perature necessary for the preservation of powder. Special arrangements have also been made in order that these holds may be utilized for the stowage of vegetables and other stores, in case the services of the vessel as a supply ship are needed in times of peace, when her services for carrying ammunition are not necessary. Large refrigerated spaces have also been provided for the stowage of frozen meats, to further promote the usefulness of the vessel as a supply ship for the fleet. The propelling machinery has been designed to burn either coal or fuel oil, and stowage has been provided on the vessel to give a large cruising radius on either or both kinds of fuel. The armament is for defence only.—*Shipping Illustrated*, 2/12.

CONTRACTS FOR SHIPS AWARDED.—Contracts have been awarded for vessels to be constructed under the 1916 program as follows:

Battleships.—Two (*Colorado* and *Washington*) to New York Shipbuilding Company for delivery within 40 months.

Two (*West Virginia* and *Maryland*) to Newport News Shipbuilding and Dry Dock Company for delivery within 39 months.

Scout Cruisers.—One to Seattle Construction and Dry Dock Company for delivery within 30 months.

Bids for the three other scouts authorized were unsatisfactory and were readvertised; the new bids will be opened January 3.

800-Ton Coast Submarines.—One to Electric Boat Company.

One to Lake Torpedo Boat Company.

One to Portsmouth Navy Yard. This is an experimental 850-ton boat with 20 knots surface speed, others of the class having but 16 knots.

Small Coast Submarines.—18 to Electric Boat Company.

Six to Lake Torpedo Boat Company.

Three to California Shipbuilding Company (Long Beach, Cal.).

Destroyers.—Eight to Fore River Shipbuilding Company.

Six to Union Iron Works.

Four to Bath Iron Works.

Two not awarded.

BIDS FOR BATTLE CRUISERS.—Bids for four battle cruisers were opened at Washington, December 6. The Navy Department's estimate has been that these vessels will cost about $20,433,000 each to build. There were four bidders. None of them offered to construct the vessels for a flat sum. All proposed to build the vessels on the basis of actual cost plus 10 to 15 per cent profit. The bidders were the Newport News Shipbuilding and Dry Dock Co., Union Iron Works, Fore River Shipbuilding Corp., and William Cramp & Sons. The Newport News Co. and Cramp each offered to build the vessels on the basis of cost, plus 10 per cent. The Newport News Co. fixed the time of construction at 50 months, with turbo-electric propulsion. Cramp offered to build one ship at cost, plus 10 per cent. The Union Iron Works and the Fore River each offered to build at cost, plus 15 per cent. The bids of the two last named companies were practically identical. Each offered to build one ship in 48 months. They also proposed a sliding scale by which their profits would be increased by speedy construction. The New York Shipbuilding Co. did not bid. It submitted a letter saying that its plant's capacity was taxed with navy and commercial contracts.—*Shipping Illustrated* 9/12.

The drawing of the accepted design for the battle cruisers published herewith is from the *Scientific American*, which says that the drawing is official.

COST OF THE UNITED STATES NAVY.—The total expenditures for the United States Navy from 1794 to 1915 inclusive, reaches the great sum of $3,214,339,051. This includes ships, establishments, pay, materials, and all expenses in connection with the Navy Department. The total cost of all ships now upon the navy list, excluding the new work authorized in 1915 and the great bill of 1916, is $459,686,551.—*Scientific American*, 25/11.

MAY SELL FIVE DESTROYERS.—The United States Government contemplates selling the torpedo-boat destroyers *Smith, Reid, Lamson, Flusser* and *Preston* to a South American republic.

The destroyers are of 750 tons displacement and have proven valuable to the United States Navy. They are modern in every way, excepting that they are coal burners and are equipped to fire 18-inch torpedoes instead of 21-inch.

It was found too costly to convert these boats into oil burners and, according to reports, it was found advisable to sell them.—*New York Herald*, 20/11.

LARGE VS. SMALL SUBMARINES.—Captain W. L. Rodgers, U. S. N., former president of the Naval War College at Newport, read at a meeting of the American Society of Naval Architects and Marine Engineers, a paper dealing with the kind of submarines most suitable to the needs of the United States Navy.

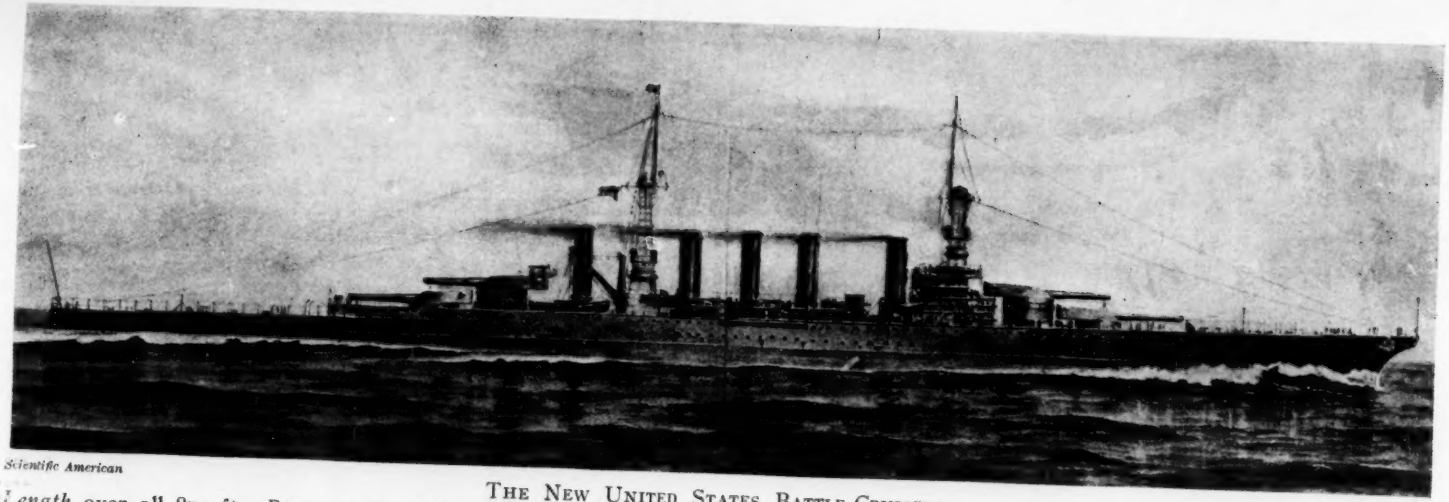
"The geographic situation of the United States, with a very extended coast line, much of which is remote from possible enemies and borders great oceans," said Captain Rodgers, "is very different from that of the present combatants, who are separated by comparatively narrow waters and confront each other at relatively short ranges. The submarine is essentially a defensive arm. It finds least opportunity when it meets its enemy in the open sea with full freedom for maneuver. On the contrary, the submarine is favored when its enemy approaches a hostile shore, where his freedom of maneuver is hampered by the proximity of the coast and his advantage of speed is thereby partially counterbalanced.

"Therefore, it does not seem desirable that our navy should attempt to establish a defensive cordon of submarines far from our coasts in mid-ocean. For a line held there will be long; its distance from shore will require much time to arrive and return from station, necessitating excessive numbers of ships. The enemy has no objective in mid-ocean and will not wait there. If he is attacked in that neighborhood by submarines, he has the advantage of full opportunity to maneuver freely at high speed. On the other hand, our submarines will gain on every one of the above mentioned points if they are used for local coast defence and do not go far off shore—say not more than a day's run. They may well expect to maintain a strip of coastal waters fairly free from the enemy and available for coast navigation, as do the English at the present time.

"Thus the size and type of coast-defence submarine of about 500 tons now favored by our Navy Department seem proper and logical for American use. It is true that it is a much larger type of submarine which has obtained most press notice in the current war, but that is because the requirements of the situation were such that the areas best suited to the operations of German submarines were far from German bases. We do not foresee any strategic reasons that will require our submarines to operate so far from home. American coast defence does not appear to require the largest type of submarines. Nevertheless, the appropriation act of this year calls for three of a large size (800 tons), which will prove instructive and useful as experimental boats even if they prove to be larger and more expensive than necessary.

"There is a great desire on the part of every navy to provide submarines capable of accompanying the fleet and taking part in general actions. For such a purpose a second type of submarine is necessary.

"Such a craft will be away from its base for a longer time than coast-defence submarines, and must therefore have a larger crew and better quarters. Tactically, also, its requirements must be quite different. An automobile torpedo has a greater virtual range when it is fired to meet an approaching target than when it is fired to overtake a retreating target. Consequently, an ideal torpedo- boat, whether of the surface type or of the submarine type, should have superior speed to that of its probable opponent, in order that, however the latter turns, the torpedo-boat may assume an



Scientific American

THE NEW UNITED STATES BATTLE-CRUISERS

Length over all 874 ft. *Beam*, 91 ft. *Displacement*, 34,800 tons. *Horse-power*, 180,000. *Speed*, 35 knots. *Battery:* ten 50-cal. 14-in. guns; twenty 50-cal. 5-in. guns; four 3-in. anti-aircraft guns; eight 21-in. torpedo-tubes. *Complement*, 1274.

advantageous position ahead of the enemy before closing to discharge the torpedo. But this is a different condition to satisfy with a fleet submarine.

"The standard speed of battleships reached 21 knots some years ago, and and is now on the rise once more. At present, 23 knots may be regarded as the normal speed for foreign battleships of the most recent design, and our navy should not lag behind others in this respect. An ideal fleet submarine should have both surface and submerged speeds of not less than 25 knots and a submerged radius of at least two hours at maximum speed. Unfortunately, we cannot get a quart into a pint pot, nor is such an ideal fleet submarine practicable. No submarine, even of as large size as 1,200 or 1,500 tons, can get sufficiently powerful machinery into her; first, because her hull weights must be great to withstand submergence, and, second, because she must be provided with two heavy systems of motive power, in place of one lighter one, such as surface craft have.

"In the present state of engineering we shall, therefore, be obliged to content ourselves with a surface speed approaching the cruising speed of the fleet under war conditions, or about 20 knots. The submerged speed and radius must be very moderate; sufficient only to serve as a means of passive defence by concealment, but not enough for aggressive maneuvering while submerged. The mechanical limitations thus imposed upon fleet submarines restrict very greatly the tactical freedom of the commander-in-chief who attempts to utilize submarines in a general engagement. Other component elements of the fleet are all capable of acting in mutual support of each other in aggressive attack upon the enemy. The fleet submarine, limited as it is in speed, is incapable of such cooperative attack with other types, for it cannot force itself into the fight.

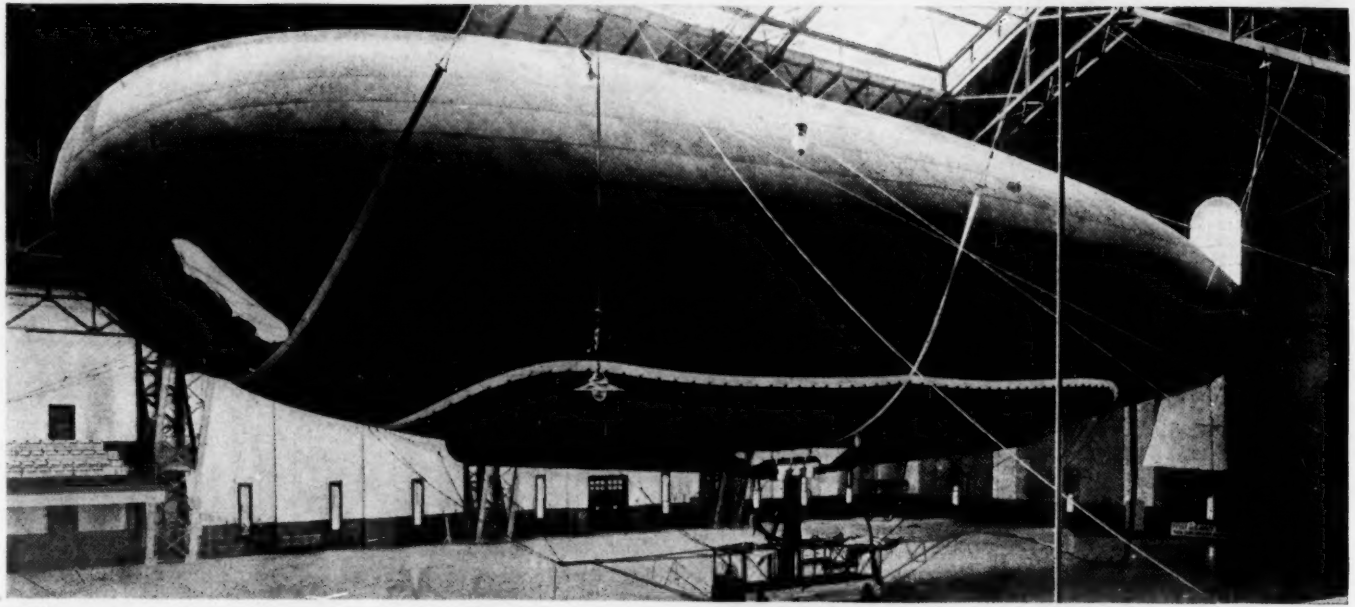
"The commander who seriously relies upon his fleet submarines in a general action must place himself upon the strategic defensive and so restrict his freedom of maneuver as to make it a chief objective to draw the enemy within the pre-established area of the submarines. It is clear that such a limitation is a severe handicap. It is nevertheless desirable that our fleet should be accompanied by submarines for use when opportunity serves. Those now building are abreast of present possibilities, but should be improved and developed in succeeding years as engineering progress dictates. The chief distinguishing characteristics for them are high surface speed with adequate surface endurance and habitability. High submerged speed and great submerged radius are comparatively secondary affairs unless most radical improvements are brought about in the methods of submerged propulsion, so that high submerged mobility may be obtained without undue sacrifice of surface mobility.

"The conclusion to be drawn from this study is that the Navy Department has made a judicious decision in the combination of military characteristics which it has embodied in its latest designs of submarines for service with the fleet as well as for coast defence."—*N. Y. Times*, 28/11.

THE NEW NAVY DIRIGIBLE "DN-1."—The navy dirigible *DN-1*, built by the Connecticut Aircraft Company at New Haven, Conn., was shipped recently to the Naval Aeronautical Station, Pensacola, Fla., for the final flying tests, the preliminary power plant and blower tests having been previously passed by the government inspector at the factory.

The dirigible *DN-1* is of the non-rigid type, *i. e.*, one in which the gas bag maintains its shape by the pressure of the contained gas and the gondola is carried entirely by a suspension fastened to the bag itself. Its overall dimensions are: length 175 feet, height 50 feet, and beam 35 feet. The balloon carries a volume of 115,000 cubic feet of hydrogen gas, which gives a total lift, less space used by the ballonets, of approximately 7000 pounds, based on the lift of its hydrogen gas at .068 pounds per cubic foot.

There are two ballonets for navigating purposes, one in the rear, with a volume of 8000 cubic feet, and one forward, with a volume of 7000 cubic feet. These ballonets serve both to navigate the airship and to assist in

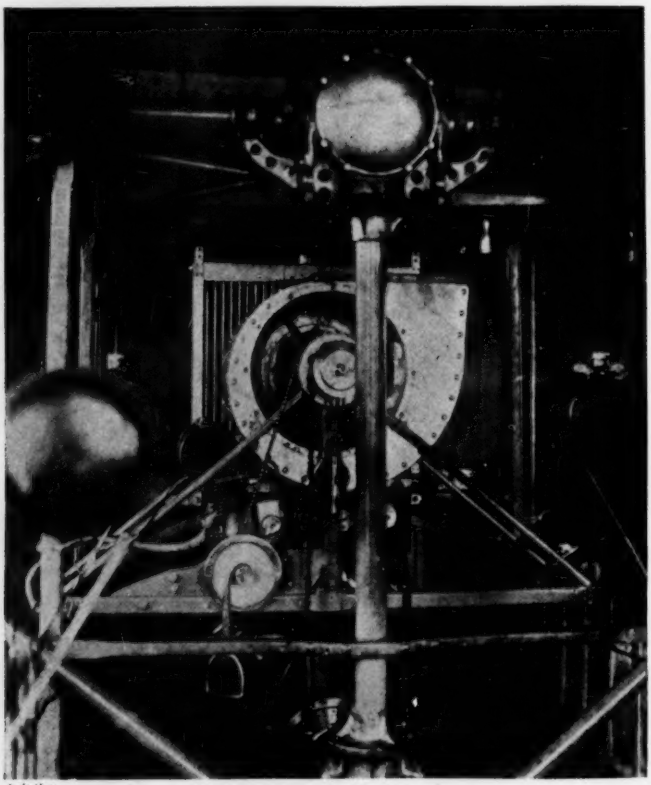


Aviation

THE NEW NAVY DIRIGIBLE "DN-1"

maintaining its shape, which at different altitudes is apt to be largely affected by temperature changes, causing expansion and contraction.

The gondola, or car, of the dirigible is fastened to the bag by means of a suspension composed of numerous ropes and cables, fastened in turn to the belly bands of the bag. This suspension is capable of great lifting strength and is made so as to afford the greatest efficiency combined with the least possible strain on any portion of the bag's surface, allowing for an even distribution of weight on all parts of the belly band.



Aviation

VIEW OF THE TRANSMISSION ON THE "DN-1," SHOWING INDIAN AUXILIARY ENGINE

In the car itself are the various units of machinery necessary to operate the dirigible. These are composed of:

First. The power plant, which is an 8-cylinder Sturtevant 140-horse-power engine at 2100 revolutions per minute.

Second. The transmission, composed of the lower gear case, through which the power is delivered by means of an upright shaft into the two cross shafts arranged overhead that drive the two 4-bladed propellers.

Third. The blower is located directly over the engine and is driven by a belt off the main shaft drive. The blower is used to keep the ballonets inflated and is operated by signal from the pilot to engineer, who in turn

shifts the T-piece levers that open and close the big air valves leading from the blower into the two metal cross tubes called the T-piece.

As a safety device, an auxiliary motor is installed to drive the blower in the event of main power plant stalling. This auxiliary, which is a 1½-horse-power air-cooled single-cylinder Indian motor, is mounted on the side of the blower frame and is connected to the blower by a chain which operates in a two-way clutch, permitting the operator to engage or disengage either means of power plant for blower drive at will.

The two propellers, of Paragon manufacture, are very large and powerful, operating at half motor speed at about 800 revolutions per minute to 1000 revolutions per minute with pitch about equal to diameter, which is 8 feet. The claimed efficiency is 73 per cent. The projected area of the propellers equals 15.25 square feet, and they are made of white and silver spruce.

The gas bag is built of two-ply rubberized cotton fabric, whose strength is 70 pounds per inch for both warp and weft, and whose permeability is 35 cubic feet in 24 hours at two feet water pressure. All seams are extra wide, with double rows of stitching. The cloth is diagonally doubled, outside ply being bias, and yellow in color to prevent the deterioration from light. The gray inside ply is waterproof. The ballonets are made of a two-ply cotton fabric with rubber coating between plys; strength, 40 pounds for warp and weft.

This dirigible is designed to attain a speed between 25 and 30 miles per hour, with endurance at full speed of two hours. It has a passenger carrying capacity of seven men. The rate of ascent and descent is 6 feet per second.

It is equipped with a full set of instruments, including barometer, barograph, pressure gages (envelope, ballonets, gasoline and water), chronometer, air speed meter, inclinometer, statoscope, compass, all made of light and compact materials. There is also a signaling system of different colored lights from pilot to engineer post.

The suspension proper of the dirigible is of standard European design, the ropes being carried through pulley blocks on the car, and are attached to belly band by means of splicing and looping brought out at each eyelet.

A complete first aid kit is provided, as well as provision for supplies and food for long trips.—*Aviation*, 1/12.

FLEET BASE ON CHESAPEAKE BAY RECOMMENDED.—The Atlantic fleet needs an adequate base on Chesapeake Bay, Captain Jonah McKean, aid for material to the chief of operations, told the House Naval Committee to-day. He urged the purchase of the old Jamestown Exposition site, facing the broad anchorage ground in Hampton Roads, for the purpose.

Captain McKean appeared to explain estimates of $5,133,000 for the air service, and since there would be an aviation field at the proposed base he went into the plan in detail, although the Navy Department has not yet recommended to Congress any action on the project. The owners ask $1,400,000 for the exposition land, which includes about 640 acres, Captain McKean said. Chairman Padgett remarked that such a figure would mean a wide margin of profit, but the officer thought the facilities offered for sale were worth the price.

Explaining the tentative development scheme for the tract, Captain McKean said the training school, fuel storage, fleet stores, mines and mine laying equipment all would be removed from the Navy Yard at Norfolk, which would be developed as an adequate construction and repair plant, while the rendezvous of the active ships would be transferred to the new base.

The primary submarine base of the fifth naval district would be established, he said, at the new site, where a large enough deep water frontage would be available to provide for ten 1200-foot docks for ships loading stores.

One of the most important features of the proposed station, the officer declared, would be a recreation ground which would provide the men of the fleet with proper places for athletic games. He approved the suggestion of Representatives Roberts and Oliver that a sailors' club house also be established.—*New York Herald*, 2/12.

SUPPLY OF THE FLEET IN WAR TIME.—The paymaster general of the navy, in his annual report says:

"The present opportunity for study of supply problems abroad has been taken advantage of by sending to London on intelligence duty an officer of the pay corps who has wide experience in supply administration.

"There has been compiled a 30-day provision list by which it is possible to find out in a moment the quantities of all items of provisions necessary for a given number of men for any length of time. By its use cargo lists of provisions can be made up in a few minutes for the entire complement of a fleet of any size without first canvassing individual vessels and then consolidating the replies into an elaborate tabulation, as was heretofore required.

"A clothing list has also been compiled and printed, showing the requirements for from 1000 to 100,000 men for six months (summer and winter) after they have been originally outfitted.

"Sources of supply of fuel in time of war have been canvassed and plans for collier and tank assignments at loading points have been tentatively adopted. A number of practical tests have been made of existing facilities at the various yards for coaling and oiling battleships and destroyers, war conditions being simulated as far as practicable in order to obtain data for intelligent criticism. The results have shown not only the relative efficiency with which these operations were conducted but also wherein improvements might be made to equipment or in methods.

Obtaining sufficient merchant ships for naval use in time of stress enters very largely into the problem of fuel supply, and the listing of ships suitable for refueling the fleet and for other purposes has steadily progressed.

"The most expeditious rail and water routes from supply centers to delivery points and from naval magazines to tidewater have been determined upon. Rail facilities for shipment of heavy guns from the naval gun factory have been inquired into and the rolling stock of all lines capable of carrying the largest guns has been inventoried. Merchant transportation by water from all east coast yards to various points on the Atlantic seaboard and Gulf coast have been investigated with a view to listing ships and recording their schedules."—*New York Herald*, 12/12.

TO FORBID RADIO CONTROL ABROAD.—A bill forbidding foreign ownership of wireless stations within the United States is being prepared by the various executive departments of the government concerned with wireless matters and neutrality problems for submission to Congress.

Passage of this bill will require a change of ownership in the Sayville and Tuckerton stations and in those of the British Marconi system. While the Sayville station was nominally owned by an American corporation, it was in reality under German control, the corporate ownership being no more than a fiction. It is said that the bill now being prepared will not allow even such foreign control of wireless stations in this country.

Defence of the nation's vital interests and of its neutrality will be the reason assigned for the enactment of this legislation. It is understood that the administration will press for the passage of the bill at the present session.—*New York Herald*, 6/12.

TELEPHONES FOR COAST GUARD.—In order to facilitate the work of the U. S. Coast Guard along this coast, every station from Eastport, Me., to Cape Hatteras has been connected by government telephone lines directly with the wireless stations. With this improvement it will be possible to give much more prompt notice of disaster at sea, with the result that the

nearest cutter will be able to proceed at once to render immediate help or to stand by until weather conditions make it possible to board or get near the distressed craft with small boats.—*Marine Journal*, 25/11.

COAST GUARD CRAFT TO BE ARMED.—The naval appropriation estimates for the coming year, it is learned, carry provision for anti-aircraft guns for the vessels of the United States Coast Guard, together with liberal allowance for machine guns and anti-torpedocraft guns.

Under recent arrangements, it is said, all designs for new coast guard cutters are scrutinized by the Construction Bureau of the Navy Department and indorsed with reference to battery implacements, magazine provision and berthing accommodation. Two new cutters now provided for will have displacements of about 1800 tons each and 18 knots speed.

The Bureau of Ordnance of the Navy Department, it is stated, allows to the new vessels three anti-aircraft guns each, of 3-inch caliber; four 6-pounder rapid fire guns and four machine guns. The scantlings of the new cutters will be unusually heavy, since the vessels are designed to drive through heavy seas and make the best possible way in all kinds of weather when speeding to the assistance of vessels in distress.

The decision to place ample anti-aircraft batteries on board the cutters is significant of the determination of the Navy Department regarding the service to be exacted of the cutters in time of war. In peace time the cruising sea going cutters carry crews of about 70 men. These same vessels in time of war are expected to carry crews of from 125 to 130.—*New York Herald*, 3/12.

THE NAVY PETROLEUM RESERVE.—Patriotic societies have come to the assistance of the Navy Department in its effort to retain control of the oil lands withdrawn by President Taft for the use of the navy. The "General Leasing Bill" which passed the House last session is now before the Senate. This bill grants to private persons the right to drill and operate oil wells in the reserved fields, and its provisions are said to be such as to threaten complete destruction of the navy's oil reserve. The Navy League is urging its members to protest against the passage of the proposed bill, the statement of the directors being in part as follows:

"Our nation has decided upon a strong naval defence policy and has voted hundreds of millions for new ships. Now comes a danger of legislation to take from the navy its oil reserves upon which the fleet must depend for fuel in the future.

"At the last session of Congress a bill was passed by the House which would legalize the claims of private individuals and corporations to the naval oil reserve lands set aside in 1909 and 1910 for the use of the navy. This bill, or a substitute, said to be backed by powerful oil interests, is about to be taken up in the Senate.

"All Americans who believe in an efficient navy should do everything in their power to defeat this proposed legislation.

"Assistant Secretary of the Navy Roosevelt, voicing the views of the Navy Department, has said that the preservation of this fuel oil reserve is essential to the very life and future existence of the navy; and that while the supply within our boundaries is steadily diminishing, its consumption by the navy is rapidly increasing and in 10 years hence may reach 10,000,000 barrels a year. He points to the self-evident fact that the government has the right to and must set aside oil lands and prevent absolutely the taking of oil from these lands for private purposes.

"It is impossible for an oil burning ship to burn coal.

"It would be impossible to build or operate the recently authorized battle cruisers, scouts and destroyers if we had to rely on coal for fuel.

"The Navy League believes that the naval oil lands should be reserved at any cost, and, that if private individuals have valid claims on these lands they should be compensated for them, but that under no circumstances should any of the oil be taken for private use.

"We ask the members of the Navy League to at once write to their senators and representatives urging the defeat of the proposed bill or of any substitute that will take from the navy all or any part of its oil reserves."

A committee of the Naval Consulting Board, on December 11, reported that the nation ought to hold "with unassailable title reserves of oil lands within its own border located with reference to economical transportation and containing sufficient oil to meet the requirement of the ever increasing navy for a period of not less than 50 years."

The committee reported that at the present rate of consumption the oil now under ground in the United States would last only 28 years, and the committee submitted a resolution declaring that the Naval Consulting Board is convinced "that any legislation which may divert from the navy any portion of its oil reserve will seriously weaken the navy and impair the national defence."

Because the Navy Department has committed itself to the use of oil fuel, because of its military advantages, it is necessary that the permanency and continuity of the fuel supply be made certain, the resolution says. Legislation now pending in Congress, it is declared, imperils the integrity of the navy petroleum reserves.

Meanwhile the Secretary of the Interior has recommended the withdrawal of other oil lands in the interests of the navy. The *New York Herald* of December 12 reports this transaction as follows:

"Franklin K. Lane, Secretary of the Interior, to-day announced that he had recommended to President Wilson the withdrawal for navy purposes of about 45,000 acres of public land in Colorado and 86,000 acres of public land in Utah, each of which, it is estimated, will yield no less than 500,000,000 barrels of fuel oil.

"'The lands include a part of the Green River formation, containing shales which yield petroleum, when subjected to destructive distillation,' says the official statement. 'Shales of this character in Scotland have long been producing oil and paying dividends on a large investment. The shales in areas withdrawn will yield from two to four times as much oil as is obtained from the average ton of Scotch oil shale. In addition to the heavy residuum this shale oil will yield 10 to 15 per cent of gasoline by ordinary methods of refining, and as a by-product the shale will produce ammonium sulphate, a valuable fertilizer, in large quantities.

"'The withdrawn areas are in arid or semi-arid sections, where the land is of little agricultural value. However, the surface of any lands valuable for farming may be entered under the agriculture land laws, subject to a reservation to the United States of the oil and gas therein. They lie within easy reach of railroad lines and will, it is believed, be exceedingly valuable as an underground reserve fuel for the navy. In addition to the areas withdrawn large unreserved areas of lands containing this shale exist.'"

TO BURY FUEL OIL.—The Navy Department desires to obtain from Congress sufficient money to provide underground storage reservoirs for its fuel-oil supply. It is believed this would protect the fuel oil from attack by an enemy. An estimate of $1,000,000 for additional storage space will provide storage at Guantanamo, Pearl Harbor, Puget Sound, San Diego, Mare Island, and Melville, R. I. The six stations mentioned now have a surface tank oil capacity of about 30,000,000 gallons, and the proposed project will increase the supply by 58,000,000 gallons. There has been no work done on surface storage plants this year, as it was desired to obtain more money and settle the underground storage proposition. It is proposed to store 6,000,000 gallons of oil at Guantanamo, 18,000,000 gallons at Pearl Harbor, 12,000,000 gallons at Puget Sound, 5,000,000 gallons at San Diego, 12,000,000 gallons at Mare Island, and 5,000,000 gallons at Melville.—*Army and Navy Register*, 2/12.

ACCIDENT TO THE "JUPITER."—The collier *Jupiter*, the only electric-drive ship in the navy, was reported disabled off Five Fathom Bank, on November 27, and was towed to Norfolk by the *Cyclops*. The nature of the accident has not been made public.

"H-3" WRECKED.—The *New York Herald* reports that the submarine *H-3* grounded in a fog near Humboldt Bay early in the morning of December 14. The craft was badly battered by heavy sea, and the crew was with difficulty rescued by means of a breeches buoy. The *Herald* quotes the commander of the *H-3* to the effect that the vessel is on a sandy bottom and has suffered no serious structural damage.

ARMY TRANSPORT "SUMNER" AGROUND.—The *Sumner*, Panama for New York, grounded off Barnegat in a fog during the night of December 11-12. Passengers were removed by coast guard cutters and life boats, the master and crew remaining with the vessel. Efforts to float the vessel have not succeeded at the time of writing.

ACCIDENT TO "ARKANSAS."—The *Arkansas*, cruising in Cuban waters, is reported to be returning to her navy yard for machinery repairs. Conflicting press reports indicate turbine damage, but the exact nature and the extent of the damage has not been disclosed.

ARGENTINE OFFICERS TO SERVE IN U. S. NAVY.—The *New York Herald* publishes a Buenos Ayres dispatch, saying that 10 Argentine naval officers will in the near future report for duty on board ships of the United States Navy. These officers, the dispatch says, are instructed to pay special attention to the handling of submarines.

THE PERSONNEL QUESTION.—The *Army and Navy Register* and the *New York Herald* report several statements made by officers of the Navy Department before the Naval Committees of Congress bearing on the personnel question. Admiral Benson, Chief of Naval Operations, said there is now a mobilization plan and a definite project of personnel expansion of such a definite character as to enable the Navy Department to come to Congress with positive recommendations for increase, in detail as in the case of the army, by increments or units. It was a case of organization not heretofore existing.

The department has adopted a policy of using older ships for police duty with reduced crews of about 50 per cent of the regular complement; thus, the armored cruisers on the west coast are employed in Mexican waters, while the older battleships on the east coast are, or will be, used in the waters of Haiti, Santo Domingo, and Mexico. A detailed account was furnished of the operation of the fleet during the year to show its practical employment and its development toward increased usefulness. A gratifying showing had been made in target practice, especially in long-range firing.

Admiral Benson told of a plan to develop the naval militia and reserve on board vessels in reserve now manned by skeleton crews, it being proposed to have the reservists and militiamen furnish the crews ultimately, with regular stations and so on. In the meantime the ships in reserve were kept in comparative readiness for active service with material ready for issue. With more officers it would be possible to have greater permanence of detail to reserve ships; now officers and men, as well, were on board such ships sometimes only a few weeks, their services being required elsewhere.

There was an interesting discussion, mostly among committee members, inspired by Mr. Oliver's proposal to have supplementary crews for reserve ships, to be permanent in personnel and employed to train new crews for the same vessels. Admiral Benson preferred the system of utilizing, say,

50 per cent of the regular crews from ships in commission with new men on board reserve vessels called into service. Mr. Oliver adhered to his notion of a permanent expert crew of full dimensions, and he took occasion to remark that even the officers might learn something from such a body of fully trained men. He would like to see it tried out, at all events, without prejudice to the existing plans for reserve personnel.

Mr. Roberts revived last session's topic on the complement of ships, on which there had been—and is—a difference of service view as to the extent of manning. Admiral Benson said there had been some recent discussion of this and some modifications. Personally he was in favor of a reduced, rather than a full, complement for certain secondary guns. In the matter of officers it was, of course, not yet possible to maintain full complements as would be done were the number of officers available.

Mr. Roberts also expressed some anxiety over the difficulty in giving militia officers such training as fitted them for important command, perhaps on board battleships of the first line. Admiral Benson thought the system of education in the case of the militia was consistent with the duties such officers were likely to be called upon to perform in time of war; but Mr. Roberts suggested there might be an expansion along that line to qualify militia officers for larger responsibilities than appeared to be contemplated under present conditions.

Admiral Benson stated he would like to have more men and officers on the active ships, but they now have technically correct complements. It is expected to have four new ships in commission next year.

Admiral Benson again referred to the shortage of officers and men and stated he would hold to the plan of 17 first-class ships with the active fleet, with increased complements for the reserve ships, and would bring the torpedo flotilla up to the highest efficiency. He would not increase the number of first-class ships in the active fleet to 25 until the additional personnel was trained. In answer to Mr. Roberts he stated that a division now consists of four ships, a reduction of one from the division maintained under the Meyer administration of the Navy Department. Under the latter plan it was only possible to have four ships on duty, as one always was undergoing repairs. Admiral Benson changed this plan when he went to the department and stated that he favors a three-ship division, believing such a number enough to be handled by one man.

Rear Admiral Palmer, chief of the Bureau of Navigation, has recommended legislation providing that the present first class of midshipmen, which would in due course be graduated in June, 1917, be graduated in February, and that the present second class, which would be graduated in June, 1918, be graduated one year earlier. He has further recommended that an act be passed by which the course should embrace only three years until the present urgent need of officers should be passed. It has further been suggested that each member of Congress be allowed an additional appointment at the Naval Academy.

There are at present 183 members of the first class and 207 members of the second class. The passage of the proposed legislation therefore would insure nearly 400 additional young officers of the navy by June next, instead of less than 200. The third class now numbers 213, and the fourth class, by far the largest in the history of the institution, has 621 members. Should legislation suggested by Rear Admiral Palmer be enacted the class which will enter in June will contain well over 600 members, and it has been estimated by the academy authorities that there would be about 1400 midshipmen. If each member of Congress is allowed an additional appointment the number of midshipmen would be about 1750.

THE MACHINE RIFLE BOARD.—The reconvening of the Machine Rifle Board on November 24 at the order of Secretary Baker after it had adjourned to meet next May, together with the appointments of a special board in the Southern Department to revise the present regulations con-

cerning automatic machine rifles with special reference to the use of the Lewis machine gun, would seem to put a new face on the report of the Machine Rifle Board which recommends the immediate purchase of 4600 Vickers machine guns of the latest approved type. This report of the Machine Rifle Board relieves General Crozier from the charge so freely made that personal reasons entered into the objections urged by the Ordnance Department against the Lewis gun, thus accomplishing the purpose we had in view in recommending the selection of a board, concerning whom no such suggestion could be made.

The *Army and Navy Journal* has always been of the opinion that service conditions were a better test of any weapon than the conventional trials in an arsenal where conditions, in the very nature of things, must be almost wholly artificial. It would appear that Secretary Baker is of the same opinion, as the result of the recent experiences on the border, where about 350 Lewis guns are in use under service conditions and have given satisfaction. It is reported from Washington that Mr. Baker's reason for reconvening the Machine Rifle Board is to ask its members to reconsider their recommendation for the purchase of so many Vickers guns and, instead, to order the immediate purchase of a quantity of Lewis guns, owing to their lightness and portability. Color is given to this statement by the fact that the special board appointed in the Southern Department to revise the regulations for automatic machine rifles is required to include in its draft of new regulations special regulations for the Lewis machine gun.—*Army and Navy Journal*, 2/12.

MACHINE GUNS FOR MARINE CORPS.—The Marine Corps has not yet decided upon a type of machine gun, but is waiting the final report of the machine gun board recently recalled by Secretary Baker to reconsider its first recommendations for the immediate purchase of 4600 heavy Vickers water-cooled guns instead of the light, portable type.

This information was given the House naval committee by Brig. Gen. Charles McCawley, U. S. M. C., when Marine Corps matters were under consideration on November 27.

The organization of the machine gun units of the Marine Corps is said to differ from that of the army, that corps having been guided by the reports from Europe, and intends to have 30 machine guns per thousand men instead of 12 to a regiment of 1500, which is the army plan. The Marine Corps has been basing all its plans on the adoption of a light portable gun similar to the Lewis air-cooled weapon.—*Army and Navy Register*, 3/12.

COURT MARTIAL DECISION RELATING TO RESPONSIBILITY FOR NAVIGATION.—Commander Reginald B. Belknap, U. S. N., in command of the Mining and Mine Sweeping Division of the Atlantic fleet, and Commander Arthur MacArthur, Jr., U. S. N., have been sentenced to lose 10 numbers for the grounding of the U. S. S. *San Francisco* on May 19, 1916. The charge was "improperly hazarding a vessel of the navy, in consequence of which she was run upon a shoal and seriously injured." The evidence in the case shows that the weather was foggy and misty, but the court held both the commander of the division and the captain of the ship guilty as charged. In the summary of the case it is pointed out that the evidence shows that the commanding officer of the *San Francisco* had been directed to proceed with the vessel to the entrance of the Great Round Shoal Channel. At 12.07 a. m. the ship arrived at the point which by reckonings should have been close to the entrance buoy. Upon arriving at this point the division commander was to decide whether to proceed through the channel or to go outside around Nantucket Shoal, the decision being dependent upon the weather conditions.

According to the testimony on which the court based its findings, the division commander was weighing the alternatives of the situation in his

mind and was about to decide as to the course when at 12.14 a. m. the officer of the deck reported sighting a flashlight bearing 225 degrees; the captain did not see it; the navigator did not see it; no lookout reported it. The division commander, feeling that this light was the one for which all had been searching, gave the order, at 12.15, "Head for the light, captain." The captain entered no protest to the order of the division commander, but gave the necessary orders; the ship turned slowly to the starboard; by the order of the captain speed was increased to two-thirds in order to expedite her swinging, and finally was steadied on 231 degrees. Meanwhile the captain reiterated his inability to see the light, but steadied the ship one-half point away from the bearings given to the division commander in order to avoid certain shoal ground near buoy No. 4, which at the time the light marked.

From the evidence recorded it appears that no doubt arose in the mind of any person on the bridge as to whether the light was one or the other of the two channel buoys; the only question which seems to have arisen in the mind of the commanding officer was as to whether the light actually existed. Though the navigator plotted the new course (231 degrees) on the chart of the dead reckoning position at 12.15, and though he found it passed over a shoal about two miles distant and varied about 25 degrees from the course of the channel, and though this discrepancy was observed by both the commanding officer and the division commander, no action was taken by any person and the course was followed until the *San Francisco* took ground at 12.41 a. m.—*Army and Navy Journal*, 7/11.

CRITICISM OF NAVY PRISON.—An indication of the report that Thomas Mott Osborne, one-time warden of Sing Sing prison, will make to Secretary of the Navy Daniels on his investigation of the penitentiary at the Portsmouth (N. H.) Navy Yard was given in an address by Mr. Osborne before the Twentieth Century Club.

Mr. Osborne asserted that the penitentiary seemed to him "absurdly managed," that the uniforms were "degrading" and that the treatment of the men was "the most severe anywhere."

"What is it for?" he asked. "To fit men to return to the navy or to go out in the world? In either case it is a failure."

"Though it shelters youths who have committed no crime in the eyes of the civil authorities, the treatment is the most severe anywhere." Mr. Osborne continued. "When the men return from working on the sea wall, in a place where they could not possibly have obtained anything but sand, boulders and seaweed, they are stripped and searched. Portsmouth reminded me of Portland, England, where men are searched in that absurd fashion ten times a day."—*New York Herald*, 3/12.

EDISON COMPANY SUED AS RESULT OF "E-2" EXPLOSION.—Suits for damages aggregating $350,000 were brought on December 4, 1916, in the Supreme Court, Brooklyn, N. Y., against the Edison Storage Battery Company, by six men who were injured when the submarine *E-2* was wrecked by an explosion at the navy yard, New York, January 15 last. The men are Michael Peyser, Harry Zoll, Sac C. Miles, Richard P. Heyne, Otto Hasert and August Kaplan. All are electricians who were working on the boat at the time of the explosion. All except Miles have sued for $50,000. He demands $100,000. The plaintiffs assert that on the day of the explosion they were engaged in installing a battery on the submarine, for which the Edison concern had a contract with the government. They contend the battery was not equipped with proper devices to "indicate the individual voltage of the cells," and that in consequence the latter were permitted to generate explosive gases in dangerous quantities.—*Army and Navy Journal*, 9/12.

UNITED STATES NAVAL MILITIA AND NAVAL RESERVE

NAVAL RESERVE.—Arrangements have been made by the bureau of navigation of the Navy Department for the enrolment in the naval coast defence reserve, one of the classes of the naval reserve force, created by the act of August 29. A circular relating to the class has been issued for the information of commandants of naval districts and applicants. This class will be open to owners and operators of yachts and motor power boats suitable for naval purposes in defence of the coast. It is proposed to make contracts with such owners to take over their boats in time of war or national emergency upon payment of a reasonable indemnity.

The fleet reserve, in which enrolments are taking place, has a membership of about 500 with additions thereto at the rate of about 200 a week. Places of enrolment for this class will be established in the capital of each state under the direction of the naval officer in charge of the recruiting district.

Arrangements are being made to enroll in the fleet reserve some 700 or 800 seamen who are employed on ships navigating the Great Lakes. It is planned to take these men on a winter cruise with the fleet to Guantanamo during the next three months, returning them to their vessels in March in time to resume their regular occupations. These men will belong to class two of the naval reserve force.—*Army and Navy Register.*

POWER BOAT OWNERS OBJECT TO NAVY'S REQUIREMENTS.—There are many owners and prospective owners of motor boats who are anxious to do their part in the general program of preparedness, but there is a rapidly growing impression among these men that the Navy Department suggested program for enlarging the mosquito fleet is doomed to fail as regards getting anywhere near the number of craft and men enrolled as is desirable.

This attitude was well expressed at a meeting of the United States power squadron's delegates. The meeting was one of the most enthusiastic and optimistic ever held in this city among the followers of marine sports, and there is no doubt about the men being patriotic to the extreme, but they unanimously upheld Roger Upton, chairman of the governing board, in a letter he had sent to the Navy Department, criticising that department's stand as outlined in the report of the gathering of naval officers at Newport.

In the first place it was stated that one of the conditions required is that the men enroll for four years and serve aboard the auxiliary craft for at least three consecutive weeks each summer during those four years. That may appear to be an easy thing for civilians to do, according to the way naval officers view the situation, but there are comparatively few men in civil life who can get away from business for that length of time, even if they desire to.

That is equally true of employers and employes, and the result is that the Navy Department is supposedly unconsciously discriminating in favor of the few who are in a position to devote that time to the service and will do so, with the result that the great majority of motor boat owners will lose all interest in the movement.

The delegates and members of the U. S. P. S. are as enthusiastic a body of men as are to be found in this country, and there are about 400 of them, representing 22 local squadrons. They have taken up the study of seamanship and navigation with a will and are doing excellent work in encouraging all owners of power craft to become proficient in the art of handling their craft.

Each year they hold maneuvers and frequent quizzes, and as a result merchant craft, such as tugs, ferryboats, etc., that were accustomed to look with scorn upon power craft, now observe the rules of the road when they see the U. S. P. S ensign flying at the stern of any motor boat, for they are aware that the owners know the rules of the road as well as they do.

Many of the men enrolled in this organization do not own craft suitable for use in connection with naval maneuvers off shore, but these same men do know their work, and in addition they have an intimate knowledge of local waters that might prove of inestimable value in the event of war that brought hostile ships to our shores.

While these men are anxious to serve their country in case of need, they do not intend to enlist in any federal organization that may result in their being called upon to neglect their business at times when it is not really necessary and to justify their assertions they cite the cases of national guardsmen who were called to the Mexican border.

While these U. S. P. S. members condemn the Navy Department's attitude as regards conditions of enlistment, they heartily approve the department's decision that seaworthiness is more desirable than excessive speed, as is shown by the classification of craft by the board that convened at Newport, R. I.

The conditions as regards armament came in for criticism, however, on the guns to be carried according to navy specifications, for, it was claimed, the weight of these guns is more than can be carried and still maintain the trim of the craft, though much lighter guns than those selected for use aboard scout cruisers might be used.

Members of the U. S. P. S. and other similar bodies will continue their work of preparing, so that in time of actual need they will be available as useful factors in naval scheme of preparedness, but until the Navy Department arranges less drastic conditions they will do their work independently. The fact that the navy offers ratings to the men who continue under its auspices, as well as free gasoline during maneuvers and some other minor inducements, will not affect the attitude of the great majority of those who are in a position to be of the greatest assistance to it. However, many are expected to build craft that comply with naval specifications as regards length, speed and seaworthiness.—*New York Herald*, 20/11.

THE NAVAL TRAINING ASSOCIATION OF THE UNITED STATES

The following is issued in pamphlet form by the N. T. A. U. S.:

STATEMENT AS TO PURPOSES

It has long been recognized that the preservation of peace and the defence of the United States against foreign aggression from across the Atlantic or Pacific oceans require the maintenance of adequate naval forces, including not only sufficient ships of war, but also enough competent officers and men to handle them. The personnel of the navy has been, and still is, wholly insufficient to man our effective fighting ships, and until recently there has been no authority of law for increasing the number or for the creation and enrolment of a naval reserve force. Commendable efforts have been made by those who are awake to the situation to avail of the services of civilians who, by reason of their nautical or technical experience, may be or become fitted for useful service in the navy or in one of its auxiliary or administrative branches. From the 15th of August until the 12th of September, 1916, the Navy Department held the first naval training cruise for civilians on board the reserve ships of the Atlantic fleet, in which nearly 2000 men, drawn from almost every walk of life and from all parts of the country, took part. The success of the experiment has impressed upon these civilians that the necessity for naval preparedness is as important as the necessity for military preparedness, that naval prepared-

ness requires most careful and extended training of the personnel of the fighting and auxiliary ships, and that further training cruises or other schools or camps for naval instruction should be held next year and in succeeding years; and they have formed this association for the purpose of promoting and encouraging such naval training.

The Naval Training Association of the United States does not enter the field occupied by the naval militia. Naval militia organizations exist only in comparatively few localities, rendering it impossible for large numbers residing outside those localities to obtain the training so afforded. Most of those who took part in the naval training cruise of 1916 are men whose occupations and activities have made them unable to enlist in the naval militia and devote the time and painstaking service required by that organization. It is to meet the requirements of men who are unable to join the naval militia and who are nevertheless useful material for naval service that the association advocates naval training cruises, schools, camps or other forms of instruction. One of the purposes of the association is to make use, as far as may be practicable, of the facilities of the navy for such training, including, if possible, the use of the United States Naval Academy at Annapolis and the several training stations, when not otherwise occupied, for the training of civilians; and it is also particularly hoped that a period of instruction may annually be held at which boys between the ages of 15 and 19 may be afforded an opportunity for naval training.

The act of Congress, approved August 29, 1916, entitled, "An Act Making Appropriations for the Naval Service for the Fiscal Year Ending June 30, 1917, and for Other Purposes," commonly known as the "Navy Bill," has taken a forward step of great importance to naval preparedness by the creation of a naval reserve force to consist of six classes, some one of which will afford every citizen to whom the naval service is congenial an opportunity to perform the patriotic duty of preparing himself to do his part in defence of his country. The provision of the law authorizing the Secretary of the Navy to establish schools or camps of instruction at such times and in such localities as he may deem advisable for the purpose of instructing members and applicants for membership in the naval reserve force should, if advantage be taken of the opportunity, result in the creation of a sufficient body of men competent to aid in the naval defence of the country if occasion should arise.

CONSTITUTION
OF
THE NAVAL TRAINING ASSOCIATION OF THE UNITED STATES

WHEREAS, During the months of August and September, 1916, the Navy Department held the first naval training cruise for civilians on board the reserve battleships *Rhode Island, Maine, Virginia, Kearsarge, New Jersey, Illinois, Kentucky, Louisiana* and *Alabama,* with the object of helping to equip properly qualified men to act as reserves in time of war or national emergency by giving them a course of training on warships under naval officers and naval discipline; of fostering a patriotic spirit and giving to civilians some knowledge of the navy and the navy requirements of the country; of interesting civilians in naval matters so that by taking future

courses of training or study many may qualify for important positions in the active and auxiliary naval forces of the United States; and

WHEREAS, The civilians who took part in the cruise on the various ships were of the opinion that the interests of naval preparedness demanded the formation of a permanent organization, and in order to effect such an organization a meeting was held on board U. S. S. *Rhode Island* on September 1, 1916, at which were present the following named delegates appointed to represent civilians upon each ship:

U. S. S. *Rhode Island:*
D. McK. Morris, of Pittsburgh, Pa.;
W. Frazier Harrison, of Oreland, Pa., and
J. H. Craige, of Philadelphia, Pa.

U. S. S. *Maine:*
F. H. McAdoo,
F. O. Byrd and
W. C. Booth, all of New York City.

U. S. S. *Virginia:*
H. Parkman, Jr., and
Edward M. Pickman, of Boston, Mass.

U. S. S. *Kearsarge:*
G. A. Hinckley, of Portland, Me., and
R. W. Emmons, 2d, of Boston, Mass.

U. S. S. *New Jersey:*
M. B. Halliday, of Ithaca, N. Y., and
Franklin Farrell, Jr., of New Haven, Conn.

U. S. S. *Illinois:*
A. H. Kelly, of Richmond, Va., and
Edmund H. Eitel, of Indianapolis, Ind.

U. S. S. *Kentucky:*
P. M. Hamilton, of Sterlington, N. Y., and
Don P. Hawkins, of New York City.

U. S. S. *Louisiana:*
Martin Lindsay, of Milwaukee, Wis., and
John M. Ewen, Jr., of Chicago, Ill.

U. S. S. *Alabama:*
Oscar H. Cleveland, of Memphis, Tenn.;
also
W. L. Rowe, of Pittsburgh, Pa., and
Thomas Newhall, of Philadelphia, Pa., who acted as secretary of the meeting; and

WHEREAS, It was determined that a national organization should be formed to be known as The Naval Training Association of the United States, for the purpose of encouraging further similar cruises, and otherwise stimulating naval preparedness; and

WHEREAS, It was determined to refer the preparation of a constitution and by-laws to a sub-committee of three, with the request that the committee be prepared to report at a general organization meeting to be held in New York City about October 15, 1916, and it was, on motion, resolved that a committee consisting of William Greenough, of New York; John L. Saltonstall, of Boston, and John M. Ewen, Jr., of Chicago, act as a committee, of which Mr. Greenough should be chairman, and Thomas Newhall, secretary, to prepare a constitution and by-laws for The Naval Training Association of the United States, and the meeting then adjourned to meet upon the call of the chairman of the sub-committee; and

WHEREAS, In certain naval defence districts there are, or are in process of formation, associations for the promotion of naval coast defence in its various branches whose members participated in the local exercises of motor boats or aircraft for naval coast defence recently held under the direction of the Navy Department, and other organizations of water-men exist whose aims and endeavors are along lines included in the general

purposes of this organization, and the efforts of such associations have been largely instrumental in forwarding the success of the movement for the naval training of civilians; and

WHEREAS, The sub-committee appointed at said meeting having prepared a constitution and by-laws and submitted the same to the meeting duly called and this day held:

NOW, THEREFORE, the above named delegates appointed by the civilians who took part in the naval training cruise as aforesaid, hereby adopt the following constitution and by-laws:

I

There is hereby formed the Naval Training Association of the United States to promote the naval training of civilians in the interest of naval preparedness and for the purpose of cooperating with the Navy Department in securing the attendance of civilians on future naval training cruises or at the schools or camps of instruction, to be established for the naval training of civilians, and in securing the enrolment of the owners and operators of motor power boats, yachts and aircraft suitable for the auxiliary services of the navy.

II

Membership in this association shall be open to any citizen of the United States who enrolls as a member, pays the annual dues fixed by the by-laws and

(*a*) who took part in the naval training cruise of 1916 or who takes part in the training cruises, schools or camps of instruction held hereafter under the direction of the Navy Department; or

(*b*) who faithfully attended drills and received instruction at one of the navy yards for at least two months prior to the organization of this association; or

(*c*) who was an owner or operator or a member of the crew of a motor power boat, yacht, or aircraft during the exercises held in connection with the naval training cruise of 1916, or who is an owner or operator or a member of the crew of such a boat, yacht or aircraft in any future mobilization thereof held under the direction of the Navy Department; or

(*d*) who receives training for the prescribed period under the direction of the Navy Department designed to render him useful for the service of the navy in any capacity; or

(*e*) who is elected to honorary membership by the governing committee or the executive committee.

III

This constitution shall be subject to amendment by majority vote of the members in attendance at a regular meeting or by majority vote of the whole membership taken by mail.

BY-LAWS OF THE NAVAL TRAINING ASSOCIATION OF THE UNITED STATES

I. GOVERNING COMMITTEE: OFFICERS

(*A*) There shall be a governing committee selected as hereinafter provided. It shall be the duty and function of the governing committee to determine and guide the policy of the association, to appoint the standing

committees as provided by article 2 of these by-laws, and such special committees as may, from time to time, be required, and to supervise and direct the activities of the association. The governing committee shall select from its members a chairman, a secretary, a treasurer, and an executive secretary. The governing committee may also elect an honorary president and not more than ten honorary vice-presidents, and all such officers shall *ex officio* be members of the governing committee.

The governing committee shall, in the first instance and until their successors are appointed as hereinafter provided, be composed of the delegates appointed to attend the meeting held on U. S. S. *Rhode Island*, on September 1, 1916, viz.: D. McK. Morris, W. Frazier Harrison, J. H. Craige, F. H. McAdoo, F. O. Byrd, W. C. Booth, H. Parkham, Jr., Edward M. Pickman, Richard S. Russell, G. A. Hinckley, R. W. Emmons, 2d, M. B. Halliday, Franklin Farrell, Jr., A. H. Kelly, Edmund H. Eitel, P. M. Hamilton, Don P. Hawkins, Martin Lindsay, John M. Ewen, Jr., and Oscar H. Cleveland, and also Thomas Newhall, W. L. Rowe, Paul L. Hammond, Junius S. Morgan, John L. Saltonstall, William Greenough, and such members at large (including honorary members) as the governing committee may add to its number, which shall not exceed 100.

On or before the end of each calendar year, beginning with the year 1917, the governing committee shall meet and shall select from the entire enrolled membership of the association a new governing committee, not exceeding 100 in number. Such selection shall be made with a particular view of providing for representation from all parts of the country and from new members who took part in the cruises, schools, camps or mobilization of motor boats or aircraft during that year. Any member of the governing committee shall be eligible for reelection.

(*B*) All officers and all members of committees shall serve during the term for which they have been elected or appointed and until their successors are chosen and qualified.

A vacancy in any office may be filled by the executive committee for the unexpired term.

(*C*) The chairman of the governing committee shall preside at all meetings of the association and at all meetings of the governing committee. In his absence the secretary of the governing committee shall preside.

(*D*) The secretary of the governing committee shall record at all meetings of the association and of the governing committee and shall perform all duties incident to the office of secretary, subject to the control of the governing committee.

By virtue of his office the secretary of governing committee shall be assistant treasurer, and in the absence or disability of the treasurer shall perform the duties of the treasurer.

(*E*) The treasurer shall have the custody of all funds of the association and shall deposit the same in such banks or depositaries as the executive committee shall designate. He shall sign receipts and vouchers for payments made to the association, and jointly with such other officer as may be designated by the executive committee, or singly if by it authorized, he shall sign all checks made by the association and pay out all funds of the association under the direction of the executive committee. He shall keep books of account, which shall be audited by the auditing committee.

By virtue of his office, the treasurer shall be assistant secretary, and in the absence or disability of the secretary shall perform the duties of the secretary.

II. STANDING COMMITTEES

(*A*) *Executive Committee.*—The governing committee shall appoint, not to exceed 11 of its number, to form, together with the chairman, the secretary and the treasurer of the governing committee, and the executive secretary, as members *ex officio*, an executive committee to serve during the pleasure of the governing committee. The executive committee shall have authority to exercise all powers of the governing committee at any

time when the governing committee is not in session, and all action by the executive committee shall be reported to the governing committee at its next meeting.

(*B*) *Finance Committee.*—The governing committee shall appoint, not to exceed five of its members, to form, together with the chairman of the governing committee, *ex officio*, a finance committee. The function of the finance committee shall be to raise funds to enable the association to carry out its purposes, and all such funds shall be paid to the treasurer.

(*C*) Auditing Committee.—The executive committee shall appoint three of its members as an auditing committee to supervise and audit the accounts of the treasurer.

(*D*) *Local Enrolment Committees.*—The governing committee or executive committee shall appoint enrolment committees for such centers of population as may be deemed desirable, which committees shall have power to add to their number. The function of the enrolment committees shall be to assist in the recruiting of men for the naval training cruises, schools or camps of instruction, mobilizations of motor power boats, yachts and aircraft, or other form of naval instruction which the association may from time to time advocate, and which the Navy Department may authorize.

(*E*) *Local Finance Committees.*—Each enrolment committee shall appoint a local finance committee, the membership of which shall not be confined to members of the association. The function of each local finance committee shall be to raise funds to enable the local enrolment committee and local Naval Coast Defence Association or committee to carry on their work, and to provide funds to carry out the purposes of the association. Such local finance committees shall report to the central finance committee, and their accounts shall be subject to audit by the auditing committee.

(*F*) *Other Committees.*—The executive committee may appoint such other committees as may be deemed advisable from time to time to carry out the objects of the association.

III. NAVAL COAST DEFENCE SECTION

With a view of obtaining the benefit of unity of purpose and concerted action associations heretofore or hereafter formed in any naval defence district to promote the naval training of civilians in connection with the naval defence of the coast, such as service with coast defence vessels, torpedo craft, mining vessels, patrol vessels, aircraft or as radio operators or other auxiliary services of the navy may, when approved by the governing committee or the executive committee, become affiliated with this association and together form the naval coast defence section of this association. Representation on the governing committee shall be afforded to such associations by the election of members thereof who may be qualified for membership in and who become members of this association. Such associations shall cooperate with the commandments of their respective naval defence districts in the formulation of plans for the enrolment and mobilization of such yachts, boats or aircraft, and for drills and instruction of their owners, operators and crews; they shall also cooperate with the local enrolment and finance committee.

In naval defence districts where no such associations shall have been formed, the governing committee or the executive committee may appoint one or more local committees from members of this association for the purposes above set forth.

IV. MEETINGS

The first annual meeting of the association shall be held not later than April 1, 1917, the date and place of the meeting to be determined by the governing committee. Thereafter there shall be at least one meeting of the association annually, the dates and places to be determined by the governing committee.

The governing committee and all standing committees may adopt rules governing their respective action, copies of which shall be furnished to the executive secretary; and shall meet wherever and as often as each committee for itself shall determine.

At all annual meetings of the association 100 members, or their proxies, shall constitute a quorum.

At meetings of the governing committee 15 members shall constitute a quorum.

At meetings of all other committees such number shall constitute a quorum as each committee may for itself determine.

V. DEBTS AND OBLIGATIONS

No officer or member of the association shall incur any debt or contract any obligation in the name or on behalf of the association unless the executive committee shall, by resolution duly adopted, have authorized such debt or obligation. No expenditure shall be authorized by the executive committee or debt created or liability incurred unless (1) there be then in the treasury of the association funds to meet such appropriation, debt or liability, exclusive of liabilities already incurred; (2) there be then owing to the association collectible accounts sufficient to meet such liability; or (3) the amount of the appropriation, debt or liability is guaranteed in writing to the association by a person or persons of financial responsibility approved by the executive committee.

VI

No officer, employe or member of the association, nor any committee, or part thereof, shall make any statement for publication to the press or otherwise purporting to announce the policy of the association or its contemplated acts unless the executive committee shall so order.

VII

The annual dues for membership in this association shall be $1.00, payable on demand to the treasurer.

VIII

These by-laws may be amended by majority vote of the governing committee at a meeting or by mail.

HEADQUARTERS

NAVAL TRAINING ASSOCIATION OF UNITED STATES

34 PINE STREET

NEW YORK, October 25, 1916.

Hon. Josephus Daniels, Secretary of the Navy,
Washington, D. C.

DEAR SIR:

Pursuant to resolutions adopted by the executive committee of the Naval Training Association of the United States, I beg to send you herewith a copy of the constitution and by-laws of the association, which was recently organized at a meeting held on October 18, in the city of New York, by delegates appointed from the civilian volunteers on each of the battleships which took part in the naval training cruise of 1916. The statement of purposes contained in the preamble briefly outlines the objects for which the association has been formed. The executive committee feels, however, that it is important that a plan for the future naval training of civilians should be presented to the Navy Department in order that consideration of the question may be promptly had and steps taken in the near future to prepare for what is to be done along these lines during the summer of 1917.

I have been directed to submit the following suggestions:

1. Almost a year ago certain civilians and officials of the Navy Department began to appreciate the necessity for civilian training as a part of national naval preparedness. This resulted in agitation for the first naval training cruise, which was held August 15 to September 12, 1916. It is highly important that a general plan governing the establishment and direction of future training cruises, schools or camps be considered, adopted and put into effect at an early date in order that ample notice of the details may be given to those interested and that we may commence the enrolment of civilians for the training to be afforded next summer as soon as possible. We have already received many inquiries as to the arrangements for next summer, to which we are unable to make any reply, although we have recently been afforded an unexampled opportunity for publicity through the courtesy of the Military Training Camps Association, which has offered to permit us to include our literature with a pamphlet which it is preparing to send to more than 250,000 persons. With the idea that our suggestions may be of some assistance, the following outline is submitted for the consideration of the department:

(A) We believe that a progressive course of instruction should be established consisting of training during one month in each of three successive years. The training in each year to be as follows:

(1) *First Year.*—One month of training at shore stations, preferably the Naval Training Station at Newport; the Training Station on the Great Lakes and the Training Station at San Francisco; and, if possible, also at the Naval Academy at Annapolis; the course of drills and practical instruction to be very similar, if not identical, with that adopted for fourth class midshipmen, except that it shall include more hours of drill and instruction in view of the age and ability of the civilians who are likely to enroll. In this connection it is believed that the month's drill and instruction may be (at least toward the end very much more advanced, and include practical instruction and drill usually given to midshipmen of higher classes.

(2) *Second Year.*—That during the summer of 1917 all men who took part in the naval training cruise of 1916 (except those hereinafter referred to) and in the summer of 1918 and thereafter all men who complete the training provided for in paragraph (1) at the training station or Naval Academy, shall be given a month's training on vessels of the reserve force. In connection with the training to be given at the training stations as provided in paragraph (1) and on the vessels of the reserve force as provided in this paragraph (2), it is requested that a definite schedule of employment, drill and practical instruction be worked out and adopted well in advance of the time for the commencement of the training in the same manner and with the same degree of thoroughness as is now done with respect to the annual practice cruise for midshipmen. It is further suggested that a sufficient number of officers and drill petty officers, whose temperaments and known reputation and experience for this duty be assigned for the instruction of the civilians both at the training stations and at sea. From the experience gained during the past cruise, it is further suggested that the training of civilians be made the sole object during the period of the second year's course, and that an itinerary be worked out and announced well in advance which shall include about one week for embarkation, shaking down, holding emergency drills, boat drills, etc., followed by two weeks for a voyage to the Bermudas, the Danish West Indies or some other port requiring a sea passage of approximately one week and concluding with target practice to be held during the fourth and last week of the cruise.

(3) *Third Year.*—That during the year 1919, all men who have completed the second year course held during the summer of 1918 and during the summer of 1917, a substantial number of the men who took part in the training cruise of 1916 be selected from their standing as

shown by their individual record cards, and that they be assigned in small groups to the most modern and efficient vessels of the active fleet and given the duty for which they have demonstrated particular capacity. It is believed that civilians who have taken the second year's cruise and such of the civilians who took part in the cruise of 1916 as may be selected during the summer of 1917, will, within a few days become thoroughly amalgamated with the ship's regular crew and perform duties assigned to them without requiring special attention or extra duty on the part of the officers and men of the ship. During the summer of 1918 it is suggested that a substantial number of men who have taken part in the first year course during the summer of 1917 and demonstrated especial fitness, be assigned, as aforesaid, to vessels of the active fleet.

(B) *Junior Training Schools or Camps.*—It is considered of the utmost importance in order to arouse the interest and enthusiasm of boys between the ages of 15 and 18 and with a view to stimulating an interest in the navy as an honorable career for the youth of the nation that schools or camps be established for boys between the ages of 15 and 18. Such training may well lead to a desire on the part of boys who have taken it to enter the Naval Academy and thus provide a valuable feeder for the academy and for the naval service. We believe that such schools or camps can be held at the Naval Training Station and at the Naval Academy at Annapolis for at least a month during each summer, either before or after the month devoted to the first year training of the senior section without interfering with the regular work of instruction carried on at the academy or training stations.

(C) It is further suggested that in order to enlist the interest of the students in the technical schools of the country in the general movement for naval preparedness, a plan be formulated which will provide a course, for which the technical schools will allow a certain academic credit, which shall include practical instruction during the vacation period of the schools on vessels of the reserve or active fleets, thereby securing the cooperation of the technical schools and their student bodies which will be of the greatest value to the navy.

(D) In view of the fact that nearly 2000 men took part in the cruise of 1916 and the practical certainty that at least 10,000 men can be enrolled for naval instruction during the summer of 1917, provided a detailed plan be adopted early enough to enable the enrolment committees to do their work properly, it is believed that the time is now ripe for the establishment in the Navy Department of an officer under the Chief of the Bureau of Navigation or elsewhere, as the department may decide, whose sole duty shall be to act as an intermediary between the department and the Naval Training Association of the United States. It is of the utmost importance in the enrolment of civilians that the officers of our association shall be able to confer at all times with a representative of the Navy Department who is familiar not only with our problems but with the requirements of the Navy Department. It will be necessary for such an officer to keep in touch with the activities of the enrolment committees which we propose to establish all over the country, and to assist us by making addresses and giving technical advice in regard to the many questions which we have found are constantly arising. Unless such an officer be appointed, we feel reasonably confident that the work of enrolment will be rendered infinitely more difficult and the work of our association less successful. In this connection the department's attention is specifically invited to the fact that Lieutenant John N. Ferguson, recently an aide on Admiral Helm's staff, has been in close contact with the movement from its inception and participated in the cruise of 1916; that he is in sympathy with the objects and aims of the association; that he is familiar with all of the work that has this far been done, and is personally acquainted with many of the officers and

members of the association, and we respectfully recommend that, if possible, Lieutenant Ferguson be appointed for the purposes above mentioned.

All of which is respectfully submitted.

(Signed) THOMAS NEWHALL, Secretary.

NOTE.—The U. S. Naval Institute expects to publish in the February, 1917, PROCEEDINGS a comprehensive article by Lieutenant Commander W. B. Tardy, U. S. N., on the general subject of naval training and the naval training cruise; the preliminary plans for the 1917 training period will be discussed. J. W. G.

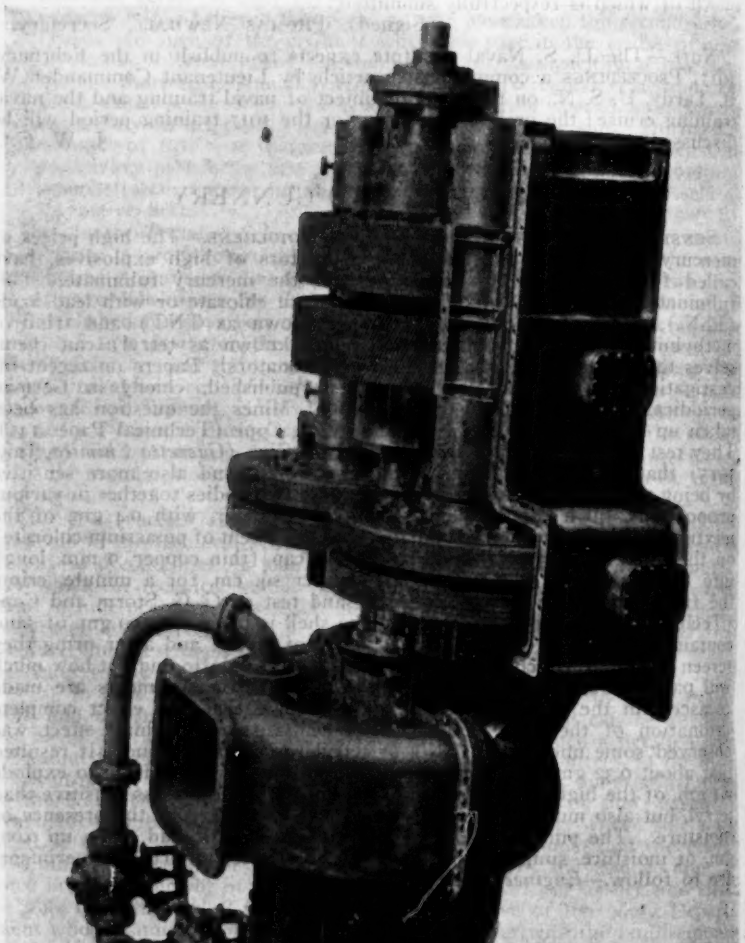
ORDNANCE AND GUNNERY

SENSITIVENESS TO DETONATION OF TRINITROTOLUENE.—The high prices of mercury, wanted for the fulminate detonators of high explosives, have called forth a search for substitutes for the mercury fulminate. This fulminate is commonly mixed with potassium chlorate or with lead azide (PbN_6), and trinitrotoluene (popularly known as TNT) and trinitromethylnitramine or tetranitromethylanilin (known as tetryl) can themselves to a certain extent be utilized as detonators. Papers on recent investigations of this problem have been published, chiefly in German periodicals. On behalf of the Bureau of Mines the question has been taken up by Messrs. G. B. Taylor and W. C. Cope (Technical Paper 145). They test in particular the suggestion of M. Giua (*Gazzetta Chimica*, July, 1915) that TNT could be made more powerful and also more sensitive by being mixed with tetryl. They fuse these two bodies together in various proportions, fill a copper shell, 5 mm. in diameter, with 0.4 gm. of the mixture, place the primer (fulminate with 10 per cent of potassium chlorate) on the top, force a perforated reinforcing cap (thin copper, 9 mm. long) into the shell by a pressure of 206 kg. per sq. cm. for a minute, crimp the fuse into the shell and apply the sand test of C. G. Storm and Cope (Technical Paper 125). In this test the shell is buried in 100 gm. of sand contained in a steel cylinder (bored block of steel), and after firing they screen the sand (which had previously been screened) to find out how much will pass through a 30-mesh screen. A series of experiments are made to ascertain the minimum weight of fulminate that will effect complete detonation of the high explosives. When a small crushing effect was observed some unexploded TNT or tetryl was always found. It resulted that about 0.32 gm. of fulminate and chlorate are wanted fully to explode 0.4 gm. of the high explosives, and that TNT is not only less sensitive than tetryl, but also much more liable to become insensitive by the presence of moisture. The pure TNT failed to detonate when it had taken up 0.003 gm. of moisture, simply by being stored over water. Further experiments are to follow.—*Engineering*, 17/11.

ENGINEERING

ALQUIST GEARING FOR SHIP PROPULSION.*—Alquist gearing has been applied to about 72 sets where steam turbines drive electric generators of various types. Contracts have been closed for machinery for the propulsion of 70 ships aggregating 215,200 horse-power. Some of these electric generating sets have been in service one and one-half years, and about seven of the ship sets are in service, some of them having made many long voyages. Among these are high pressure cruising units for the battleship *Nevada* which have been in service for some time and shown very fine results. Among the ship equipments not yet completed are

* From a paper presented before the Society of Naval Architects and Marine Engineers, New York, November 17, by W. L. R. Emmet.



International Marine Engineering

FIG. 1.—Curtis Turbine and One Plane Flexible Type Speed Reduction Gear for Ship Propulsion, Top Half of Gear Casing Removed

included the propelling machinery for destroyer *No. 69*, built at Mare Island, and new propelling machinery for the scout cruiser *Salem*. In all of this practical experience no case of trouble with gearing has developed and no appreciable deterioration of gears has been observed.

One of the important reasons for adopting this type of gearing was that its design tended to afford a distribution of strains and means by which excessive strains would not be imposed upon any part through slight imperfections, distortions, or inaccuracies. The uniform success which has been accomplished with an entirely new product shows that this expectation has been amply justified. Some of the gears which have been used have been very imperfect, both in the matter of material and workmanship, and have been used under extremely trying conditions. That

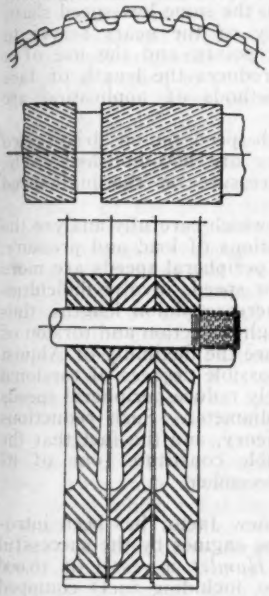


FIG. 2

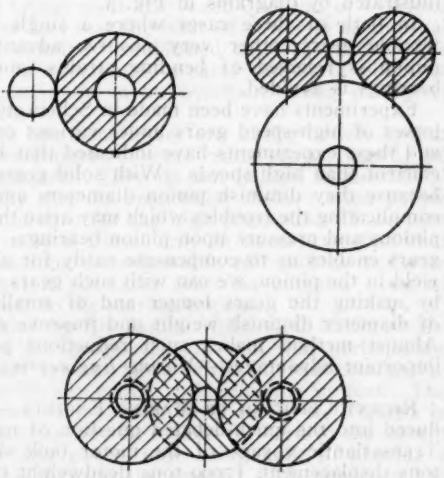


FIG. 3

they have not failed has afforded the strongest evidence of the general reliability of the method.

The character of construction used in this gearing is shown by the drawings, Fig. 2. The gear is built up of a number of plates machined to a form which gives them the desired degree of lateral flexibility. These plates are put together, engaging solidly at the hub and also engaging on a narrow edge at the periphery. When so built together they form a solid cylinder which can be spirally cut in the ordinary manner. After cutting, the edge engagements are relieved with a small dividing tool so that each disk operates independently and is free to deflect latterly under the side pressure which results from its diagonal engagement with the pinion. The parts are so proportioned that this lateral deflection can at no time involve fiber strains which could possibly cause destructive fatigue. A very small amount of this lateral deflection is sufficient to afford the desired distribution of load, and this amount can easily be given without approaching dangerous periodic strains.

With gearing of the Alquist type we can use very small teeth without any danger of incurring excessive strains on individual teeth, which

FIG. 1.—Curtis Turbine and One Plane Flexible Type Speed Reduction Gear for Ship Propulsion, Top Half of Gear Casing Removed

Internat. ind. Marine Engineering

might involve risk of the development of fatigue cracks. In this connection it should be borne in mind that experiments have shown that the strongest steel, if subjected to periodic deflections, will break after a fiber strain of 20,000 pounds per square inch has been applied a million or more times.

In the work which is now being done by the General Electric Company, gears of the type described are applied in three ways. First, a single reduction has been accomplished by engaging one solid pinion with a flexible gear of this type; second, by engaging a solid pinion with two flexible idlers, which idlers in turn engage with a solid large gear; and third, in a double reduction where a solid, high-speed pinion engages flexible gears on two countershafts, these countershafts carrying solid pinions, both of which engage a flexible gear on the same low-speed shaft. In these two latter applications the flexibility of the gears serves to equalize the loads between all of the driving points, and the use of a plurality of driving points on the large gear reduces the length of face necessary on that gear. These different methods of application are illustrated by diagrams in Fig. 3.

In both of these cases where a single high-speed pinion drives two flexible gears, other very positive advantages are accomplished. The pinion is relieved of bending strains, and pressure on the high-speed bearings is avoided.

Experiments have been made in Schenectady which carefully analyze the losses of high-speed gears under various conditions of load and pressure, and these experiments have indicated that low peripheral speeds are more efficient than high speeds. With solid gears low speeds involve difficulties because they diminish pinion diameters and increase pinion lengths, thus complicating the troubles which may arise through deflection and torsion of pinions and pressure upon pinion bearings. Since the flexibility of Alquist gears enables us to compensate easily for all possible degrees of torsional yield in the pinion, we can with such gears safely reduce peripheral speeds by making the gears longer and of smaller diameter. Such reductions of diameter diminish weight and improve efficiency, and the fact that the Alquist method makes such reductions possible constitutes one of its important advantages.—*Marine Engineering*, December.

RECENT CRITICISM OF MARINE ENGINES.—A new factor has been introduced into the much-debated question of marine engines by the successful Transatlantic voyage of the motor tank ship *Hamlet*, a vessel of 10,000 tons displacement, (7000 tons deadweight cargo, including fuel) equipped with two-stroke Diesel engines, made by the Polar Diesel Engine Co., of Stockholm. There are two sets of single-acting six-cylinder two-stroke cycle type engines of a combined indicated horse-power of about 4700. A leading feature is the fact that a large proportion of the auxiliary machinery is driven off the main engines.

The success of the *Hamlet* appears to confirm the claim that the Diesel and semi-Diesels are quite practicable for large mercantile steamers. The subject of marine engines has been left in such an unsatisfactory position by the clash of opinions that we purpose to review briefly the actual state of affairs, even if our synopsis fails to carry the argument much further. The one point to be borne in mind is that regardless of private interests or vested capital, the ships that we build ought to have the best engines possible if they are to maintain our maritime supremacy against all comers.

Simple though the proposition appears, it has been made complicated in consequence of difference of craft, difference of trading conditions, and difference in the facilities of fuel supply. If initial cost were the sole standard, the steam set, in consequence of the larger demand, might represent the most attractive form of manufacture. Yet the oil engine is cheaper to build, and if it were standarized, a first-class engine of 100 brake horse-power might be placed on the market at a price substantially

under £1000. Higher powers would be priced in proportion, according to the forecasts commonly advanced.

This contest between oil and coal, like the contest between electricity and gas, appears likely to go on until it is seen that the world is wide enough for both. Regard for the splendid service yielded by the steam engine must not be allowed to obscure our appreciation of the many excellences of design in British Diesels. Concerning defects some printed observations were made at the Junior Institution of Engineers recently to the effect that the common occurrence of broken crankshafts, sized pistons, and similar accidents, probably proceed as a rule from the oversteaming of cranks and the excessive heating of pistons, due to the frequent over-rating of the permissible output of power from given cylinder dimensions. As a consequence of this error (for which the speaker blamed the buyer) some engines balanced under conditions verging upon overload, so that reduction of the load originally contemplated became necessary to avoid breakdown.

Having regard to such circumstances as these, it is contended that the Diesel has not enjoyed the vogue which its thermal efficiency and general reliability would justify. This brings us to the vexed question of overload capacity, and serves to recall the fact that the limit of power in an internal combustion engine cylinder is definitely established and recognized. The claim is made that, according to experience, a rated output of about 10 per cent of the permissible maximum in an overload rating of Diesel engines is sound and convenient.

The strongest criticism which has come under our notice of late is that of Captain Sankey and Professor Burstall at some recent proceedings of the Institution of Mechanical Engineers. They do not believe in the Diesel engine, and we are bound to say that the Institution shelters other people of the same belief. They do not care for the high pressures. If we turn to the semi-Diesel (which is a semi-Diesel only in name) we find that the speakers regard it as approaching the original in efficiency at moderate compression pressures, and that it possesses other advantages, some of which are not specially important to the marine engines.

A different story was unfolded by Sir James Mills, K. C. M. G., at the Institute of Marine Engineers in September He said that perhaps the most remarkable development of modern times is the internal combustion engine, in which reliability can be associated with economy in fuel. The Diesel type of engine, he added, has already been fairly well tested in merchant ships of moderate capacity, and he looked forward to the advent of ships of large size and greater power now being built to provide a convincing test of what can be done in the way of high power in the commercial engines of the Diesel system. It was fair to assume that if the anticipations of the constructors of the ships were realized, steam-driven vessels might be compelled to take a secondary place among the mercantile navies of the world in a few years' time.

What conclusion follows from the various opinions? The obvious conclusion is that neither the Diesel nor the semi-Diesel can be as bad as some people contended, and that the really good points may be expected to develop, as they developed in the steam engine. Our own impression is that both will stay in marine service.

A great deal has been said regarding the use of Diesel engines on war vessels. Here the question of cost is subordinate to other considerations, but as the latter relate to efficiency they are appropriate to this article. Some hundreds of the high-speed naval type of engine have been constructed, the powers per shaft being slightly under 1000 horse-power as a rule, and the powers per cylinder varying from 100 to 150 brake horse-power. Higher powers have been employed in a number of instances. Modern destroyers are generally oil fired. It must be remembered that as speed is the great essential of such vessels, lightness and compactness of machinery are necessary. Steam propelling machinery with auxiliaries weighs from 27 pounds to 35 pounds per shaft horse-power, whereas the

lightest Diesels weigh without auxiliaries about 56 pounds per brake horse-power.

The installations could be compared only if the weight of machinery plus fuel for a given displacement, speed and radius of action are approximately the same in both cases. Calculations have been made to show that only when the power is comparatively small, and the weight of fuel on board exceeds that carried at present, could Diesel engines be installed in torpedo craft or light cruisers.

Under certain conditions Diesel engines for propelling battleships are regarded as possibilities, although their adoption is spoken of as being likely to wait until the engines increase in size. For the surface propulsion of submarines the Diesel proves itself well fitted. The power required not being excessive, space can be found for the installation and the weight is not very great.

Generally speaking, the balance of engineering opinion is favorable to Diesel engines for emergency lights, dynamo and auxiliary machinery driving in large vessels, and for the propulsion of tank vessels, fleet auxiliaries and ordinary merchant vessels of moderate powers and speed. Large liners, like large warships, are classed with battleships and large cruisers in connection with this question. On every one of these points divergencies are common. Every case must be judged on its own merits and in accordance with the conditions of service in order to arrive at a fair comparison of the engines in use. At present many British shipowners are unwilling to entertain the idea of the oil engine, either because they happen to be accustomed to the other sort or because the purchase of oil engines of the Diesel or semi-Diesel type is not placed upon a plane to commend itself to them. Nothing could better illustrate the uncertainty which prevails regarding the choice of engines. The voyage of the *Hamlet* appears to be another instalment of the case in favor of the Diesel system.—*Page's Engineering Weekly*, 3/11.

DISTORTION OF SHIPS.—The expansion and contraction of metals when subjected to varying temperatures is well known, and generally adequate provision is made in the design and construction of machinery to permit this expansion and contraction to take place without stress or strain. In marine engineering many striking examples of such provisions can be found.

Where integral parts of machinery are subject to varying temperatures, the designer's provisions for the free expansion and contraction of the metal prevent distortion and troublesome consequences; but where the integral parts are subjected to uneven temperatures, the expansion and contraction is not uniform and distortion is inevitable. Even in such cases the distortion produces little or no harm provided ample clearance is allowed and such machinery is intelligently operated. Cylinders and cylinder heads of reciprocating engines, and turbine casings and rotors are most striking examples of machinery subject to such distortion.

The hull of a ship, unlike its machinery and piping, is not designed or constructed to permit freely the uneven expansion and contraction of its frames and plating other than by the general flexibility of the structure itself. As the varying and uneven temperatures to which the frames and plating are subjected are of comparatively small range, little thought is given to the distortion which may occur; and as casual investigations reveal no evil physical effects it is assumed that such distortion as may occur can be considered as negligible. This is quite true where the ship is water borne and the under-water portion of the hull is subjected to the practically uniform temperature of the sea water. When the ship is in a drydock, however, conditions are quite different; and the distortions that take place daily prove at times very annoying.

In aligning long sections of shafting in drydock, the alignment is often found to be seriously deranged upon undocking. This condition was formerly attributed either to the improper placing of the keel block, or to the

poor workmanship of aligning the sections, or to both. Undoubtedly in some cases the improper placing of keel blocks is principally responsible, and, to a certain extent, the poor workmanship; but in general such derangement is primarily and most frequently caused by the daily distortion of the hull brought by the sun's rays while the ship was in drydock. Obviously, with the top deck, especially if of steel, and one side of the ship exposed to the sun, these portions will expand more than those portions not presented to the sun. Distortion occurs; both stem and stern will droop and at the same time be forced out of their normal vertical plane and away from the sun. Recent investigations have shown that these distortions are frequently of such a value that they cannot be ignored. A series of investigations was conducted on ships in and out of drydock, and the following general results were obtained:

Ships in Drydock.—(a) Greatest deflection of stem and stern in a horizontal plane when ship's heading was at or near right angles to the sun.

(b) Greatest droop of stem and stern where sun was on or near the meridian and at high altitudes.

(c) In every case under investigation where the ship was steel decked the droop was much greater than the deflection.

(d) Investigations on days when the sky was overcast revealed no deflections.

(e) No deflections were permanent.

Ships out of Drydock.—(a) Practically the same results were obtained on ships out of drydock, except that deflections in general were of very small values, although in some cases the droop was found considerable.

In the foregoing no values are set forth, as the figures obtained depended upon the type and size of ship and the difference in temperature to which the various portions of the ship were subjected. Deflections of 3/64 inch were common in the horizontal plane and as high as ¼ inch in the vertical plane. Greater deflections were found on larger ships.

From these investigations the following conclusions were drawn:

(a) Where exact alignment of long shafting must be done in drydock, all boring and alignment should be done on days when the sky is overcast.

(b) Where this is not practicable, allow increasing clearances as bearings approach either the stem or stern of the ship.

(c) In so far as possible line shafting should not be coupled up until the ship is undocked. Such derangement in the alignment as is then found can be eliminated in the couplings and spring bearings.—*Scientific American*, 9/12.

WIND RESISTANCE OF SHIPS.—Naval Constructor William McEntee, U. S. N., in a paper published in *Marine Engineering*, gives the results of tests made in the wind tunnel at the Washington Navy Yard on a model of the collier *Neptune*. The tests indicated that the vessel steaming into a 30-mile head wind at 14 knots would require about 770 effective horsepower to overcome the wind resistance, which is about 20 per cent of the power required to overcome the water resistance alone. If the power developed by the engines was not increased, this additional resistance of the wind would cause a reduction in speed of about 1.9 knots. In a general way the results of the test in the wind tunnel confirm the results obtained on the trials of the vessel, though exact comparison is impossible because of lack of accurate observation of wind velocity at the time of the trials. The *Neptune* was selected for test because of the large above-water area offered by the coaling booms and other top hamper.

THE ISHERWOOD SYSTEM OF SHIP CONSTRUCTION.—The Naval Institute has obtained from the Licensor of the Isherwood system an outline of the distinguishing features of the system. "Isherwood" ships are built under license issued by the owner of the patents. The system provides for framing on the longitudinal system. The transverse frames are widely spaced, about 12 feet as compared to from two to three feet in the usual

transverse ship, and are made of not less strength than the number of transverse frames that are fitted in ordinary vessels for a corresponding length of ship. Longitudinals are continuous and closely spaced. Decks and side plates are directly riveted to frames and to the longitudinal stiffeners. The advantages claimed are great increase in longitudinal strength, prevention of deck damage through buckling owing to the support given to the plating by continuous longitudinals, increased cargo capacity on account of the floor being carried flat to the side of the vessel and the absence of beam knees between transverses, and increased dead weight capacity through saving in weight of structural material. The licensor states that a large number of merchant ships now in service are built under Isherwood patents.

SUBMARINES

THE "DEUTSCHLAND."—The *Deutschland* sailed from New London on November 17, and while passing through the Race collided with one of the two tugs accompanying her as guard boats, sinking the tug with the loss of five of the crew. The submarine returned to New London with her bow damaged. She was soon repaired, and sailed again on November 21, and arrived at a German port on December 10. The *Deutschland* was libelled at New London for damages arising out of her collision and gave bond. The times of her transatlantic crossings are of interest, the westward trips taking 16 days and 21 days respectively, while the eastward passage was made in 23 days from Baltimore and 19 days from New London.

SUBMARINE REMAINS FIFTY-FIVE DAYS OUT.—A record achievement is chronicled of a German submarine which has returned to its base after 55 days at sea, without entering harbor or receiving outside assistance of any form. The weather generally was bad.—*New York Herald.*

AERONAUTICS

CHANGES IN AERONAUTICAL NOMENCLATURE.—The National Advisory Committee for Aeronautics has recommended the following additions and changes in aeronautical nomenclature. This is supplementary to the committee's original report published in No. 166 of the PROCEEDINGS.

The question of what is a right-hand engine has occasioned a great deal of comment in the aeronautic industry, and in order to associate the words "right-hand" and "clockwise," the definition of a right-hand engine has been amended to read:

"A right-hand engine is one in which, when viewed from the output shaft, looking toward the output shaft end, the shaft is seen to rotate clockwise."

As it appeared necessary, on further consideration, to differentiate between aircraft designed for operation from land and those designed for operation from water, the committee adopted the term "seaplane" for airplanes in which the landing gear is suited to operation from the water. The term "airplane" is commonly used in a more restricted sense to refer to airplanes fitted with landing gear suited to operation from the land.

For "dihedral in an airplane" the committee adopted the following definition:

"The angle included at the intersection of the imaginary surfaces containing the chords of the right and left wings (continued to the plane of symmetry if necessary). This angle is measured in a plane perpendicular to that intersection. The dihedral of the upper wing may, and frequently does, differ from that of the lower wing in a biplane."

TABLE SHOWING PROBABLE ZEPPELIN LOSSES FROM AUGUST 1, 1914, TO DECEMBER 15, 1916

No.	Name	Place	Date	Cause of Loss
1	Z-8*	Badonvillers, France ...	22- 8-1914	Destroyed by French gunners. Part of crew lost.
2	Z-5*	Mlava, Russia	29- 8-1914	Destroyed by Russian gunners. Crew lost.
3	?*	Seradz, Russia	6- 9-1914	Captured, while at anchor, by a cavalry patrol. Crew of 30, prisoners.
4	?	Düsseldorf, Germany ...	9-10-1914	Destroyed in shed by British aviators.
5	LZ-31*	Friedrichshafen, Germany.	21-11-1914	Destroyed in shed by British aviators.
6	?	North Sea	23- 1-1915	Foundered during a storm.
7	L-3*	Esbjerg, Denmark	17- 2-1915	Stranded, having run out of fuel, and broke up. Crew of 16 interned.
8	L-9*	Boulogne, France	5- 3-1915	Foundered during a storm, after having raided Calais. Crew lost.
9	L-8*	Tirlemont, Belgium	4- 3-1915	Damaged by British aviator; wrecked on landing. 21 of crew killed.
10	?	Thielt, Belgium	12- 4-1915	Damaged, over Béthune, by French gunners; wrecked on landing.
11	?*	North Sea	26- 5-1915	Broke away without crew; foundered off Heligoland.
12	LZ-37*	Evere, Belgium	7- 6-1915	Destroyed in shed by British aviators.
13	LZ-38*	Ghent, Belgium	7- 6-1915	Destroyed in mid-air by British aviators; crew lost.
14	L-?*	Ostende, Belgium	10- 8-1915	Raided London. Destroyed, upon her return by British aviators.
15	?*	Vilna, Russia	24- 8-1915	Shot down by Russian gunners; crew of 10 made prisoners.
16	?*	Saint-Hubert, Belgium ..	13-10-1915	Destroyed by exploding in mid-air.
17	?	Maubeuge, France	16-10-1915	Stranded on a chimney and broke up.
18	?	Grodno, Russia	5-11-1915	Destroyed by the storm on landing.
19	L-18*	Tondern, Germany	17-11-1915	Wrecked in shed through an accidental explosion.
20	Z-28	Hamburg, Germany	17-11-1915	Wrecked by the storm.
21	L-22*	Tondern, Germany	1-12-1916	Destroyed in shed through accidental explosion of a bomb.
22	?*	Kalkun, Russia	5-12-1916	Shot down by Russian gunners. Crew lost.
23	?*	Mainvault, Belgium	30- 1-1916	Raided Paris. Damaged by French aviator; wrecked on landing.
24	L-19*	North Sea	21- 2-1916	Raided England. Probably run out of fuel; foundered. Crew lost.
25	LZ-77*	Révigny, France	21- 2-1916	Shot down by French motor guns; destroyed in fall. Crew of 15 killed.
26	L-15*	Kentish Knock, England.	1- 4-1916	Shot down by British gunners; crew of 18 surrendered. Vessel sank.
27	L-20*	Stavanger, Norway	3- 5-1916	Raided Scotland. Stranded, having run out of fuel and drifted with the wind. Blown up by crew; 3 killed, 16 interned.
28	L-7*	Off Schleswig Coast....	4- 5-1916	Shot down by H. M. S. *Galatea* and *Phaeton*, and destroyed by submarine *E-31*.
29	?*	Salonika	5- 5-1916	Shot down by Allied Warships.
30	L-21*	Enfield, England	2- 9-1916	Shot down by aeroplane during raid on London.
31	L-32*	England	24- 9-1916	Shot down by anti-aircraft guns in Essex while returning from raid on London.
32	L-33*	England	24- 9-1916	
33	?*	England	1-10-1916	Shot down by gunfire while attempting to reach London.
34	?	Russia.....	—11-1916	Reported shot down by gun fire.
35	?*	England.....	28-11-1916	Shot down at sea by airplanes while returning from a cross channel raid
36	?*	England.....	28-11-1916	

*Destruction authenticated.

METRIC SYSTEM IN AERONAUTICAL DESIGN.—Washington, D. C., December 7, 1916. At the regular monthly meeting of the Executive Committee of the National Advisory Committee for Aeronautics to-day, the committee adopted the Metric System as its standard, so far as the work of the committee is concerned, and recommendations will be sent to the various departments of the government that this system be adopted in connection with all matters pertaining to aeronautics. The War Department will put this change into effect immediately in its Aviation Section, using both the Metric and English systems on all drawings for a time.

"BLIMPS."—COMBINATION DIRIGIBLE-AEROPLANE.—Captain Thomas S. Baldwin, writing recently in the *Aerial Age Weekly*, states that a new type of dirigible is being developed in Europe, which will probably be built in this country in the near future. This consists of what is practically an aeroplane fuselage with its motor and propeller supported by the gas bag about 130 to 150 feet long and about 30 feet in diameter at the widest point, containing places for four passengers, fuel for six hours and making a speed of 60 miles an hour, with ability to climb to an altitude of 3000 feet. These small dirigibles can be built for about $12,000. These "Blimps," one of which was illustrated in a recent issue of the *Scientific American*, are used in England for military work, and are part of the new aerial program for 1917, which, it is said, promises the building of 50 airships of both rigid and non-rigid types.—*Scientific American*.

KNOX MOTOR TESTED.—The first formal test of the 300 horse-power Knox aeronautic motor has been held at the company's Springfield (Mass.) factory laboratory. This is said to be the first aeronautic motor of such power ever built. The motor complete, including electric starting, electric lighting, tachometer (showing propeller speeds), exhaust pipes, ignition apparatus and provision for driving wireless telegraph apparatus, weighs 1400 pounds. It has been run for a period of eight hours, in which its rated 300 horse-power was exhibited during the last hour. The test was carried out on the company's Sprague electric dynamometer of 500 horse-power capacity. The motor has a specially designed propeller hub to accommodate various thicknesses and types of propellers. Nickel and vanadium steels are used throughout, and special aluminum alloys are used in all of the aluminum parts. The urgent need for a motor of this type was strongly emphasized at the meeting of the Executive Committee of the National Advisory Committee for Aeronautics held in Washington last June.—*Army and Navy Journal*, 2/12.

CONSTRUCTION OF KITE BALLOONS.—The kite balloon, now in general use in the European armies, is merely a combination of two principles, one nearly as old as civilization itself, the other discovered over a century ago. Neither principle alone ever quite filled the bill. A man-lifting kite required a strong wind to fly it. An ordinary captive balloon on the other hand could only be flown in a comparative calm. But in the kite balloon we have a combination that can take care of either condition.

The apparatus is essentially an elongated balloon which is always kept in an inclined position like a kite. Thus the wind tends to lift it by blowing against the under side. This counteracts the contrary tendency of a wind to blow the balloon over toward the ground. Kite balloons are now recognized as essential in nearly all modern warfare on land and sea. They are superior to the old fashioned captive balloons; and even the airplane is ill suited to perform the kite balloon's particular function of range finding and general observation of the line.

Notwithstanding its great superiority over the spherical balloon, the kite balloon still left something to be desired in the matter of steadiness. Even when loaded with tail cups, the use of binoculars was difficult, and severe sea-sickness was an item to contend with. The highest wind in

which good observation could be made was about 27 miles per hour. The resistance was also rather high. This carried the balloon over to a considerable angle, seriously limited the altitude attainable, and at the same time put a disproportionate strain on the cable.

Fig. 1 shows the standard European type of kite balloon. Its steadiness depends on the combined action of the "steering bag," *a*, and the "tail cups," *b-b*. Its resistance may be considered as made up of several parts:

1. The resistance of the gas-bag itself, a function of its size and shape.
2. The resistance of the steering bag, greatly augmented by the large opening at its front.
3. The pull of the tail cups, determined by the number of them necessary to maintain a reasonable steadiness.
4. The resistance of the cordage and basket.
5. The resistance of the anchorage cable.

Fig. 2 shows the original model, made by the Goodyear Tire & Rubber Co., which was probably the first produced in this country. Here a modest

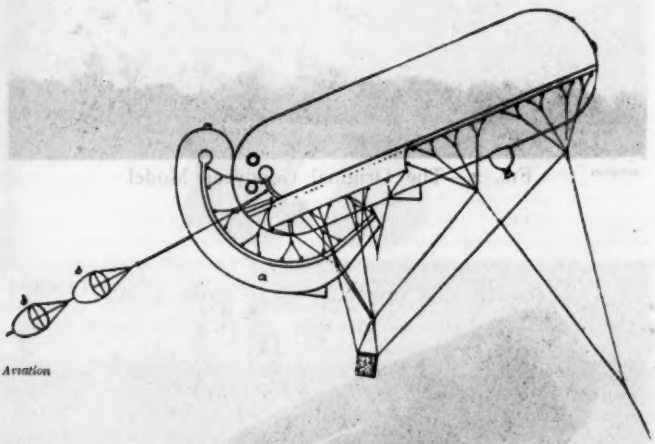


FIG. 1.—Standard European Type of Kite Balloon

attempt was made to increase the steadiness by increasing the effective lateral surface of the steering bag. It was also found possible by proper design to cut down considerably the amount of cordage previously used, thus effecting a slight increase in resistance.

Experience with this type of balloon however, showed that a radical departure in design was necessary if any marked improvement over the existing forms was to be achieved. A basic study was made of each different part. Numerous experiments, failures and successes pointed the way, and finally the results were combined and reduced to practical form in what is known as the Goodyear Kite Balloon. Its principal outstanding features may be seen in Fig. 3.

1. The shape of the gas-bag is so modified as to have a minimum resistance consistent with other requirements.

2. The steering bag is replaced by an air funnel, *c*, which is the only inflated protuberance on the balloon. This carries the keel, *d*, the tail cup, *e*, and has a valve at its lower end through which air enters to make good any deficiency in pressure. With this construction a comparatively small hole will supply all the air necessary to keep the balloon well inflated under all conditions.

FIG. 2.—The Original Goodyear Model

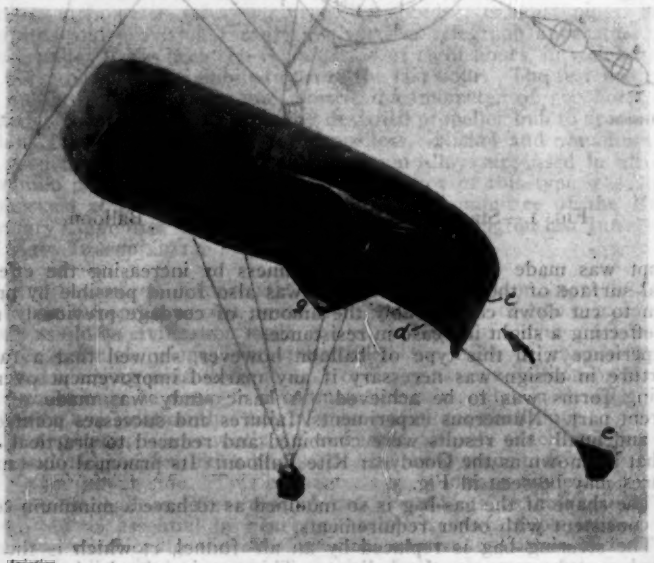
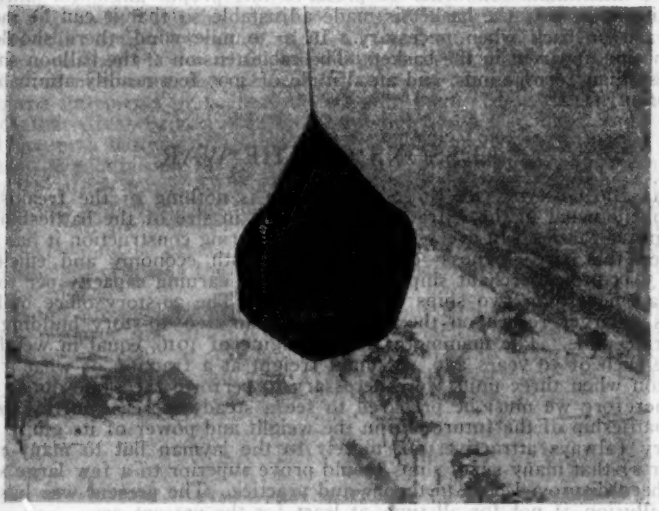


FIG. 3.—The Goodyear Kite Balloon
(Capacity 25,000 Cubic Feet)

Aviation

FIG. 4.—Keel of the Goodyear Kite Balloon



Aviation

FIG. 5.—Form of Tail Cups Used With the Goodyear Kite Balloon

3. The keel, like the funnel, is non-rigid, being supported entirely by a proper balance of forces. Its great advantage over the old steering bag is the fact that it presents a double concave surface to the wind so that it is held in the wind by a positive pressure on both sides at once. In this way any tendency to yaw is stopped almost before it starts. On the other hand, the old type of steering bag will allow considerable deflection or swing of the balloon before its corrective influence is felt. In addition to this the keel has only a small fraction of the resistance of the steering bag, is lighter in weight and is simpler in practical use. It will keep practically the form shown in Fig. 4, in any wind from a calm to 45 miles per hour.

4. The side fins indicated by *g* in Fig. 3 are so shaped and disposed that they help in the stability as well as in the kite effect of the balloon.

5. The function of the tail cups, *e*, has been reduced almost wholly to one of dampening the motion of the balloon in a gusty wind. Contrary to expectations, it was found that the form of construction of the tail cup was a considerable factor in its stability. Its present form which was adopted as a result of practical and wind tunnel experiments on numerous different designs is illustrated in Fig. 5.

6. The resistance was further cut down by making the balloon more nearly self contained and eliminating superfluous cordage and protuberances.

7. In other balloons it was found that the gas leakage through the valve and various appendices was commonly many times greater than all other sources of leakage combined. The valve was therefore designed especially to prevent leakage. Its size is more than ample for all requirements of captive or free balloon use. The air valves have also been made tighter and more efficient, thereby cutting down the quantity of air required to keep the balloon properly inflated.

8. For maximum efficiency the inclination of the balloon to the air must be calculated with considerable exactness. If it is inclined too much it carries the balloon over and puts an undue strain on the cable. On the other hand if the balloon is too nearly horizontal the lift of the wind is lost. There is a certain best inclination for each balloon at which it is perfectly steady, the pull on the cable is near a minimum and the altitude a maximum. In order to preserve this proper angle for different conditions of use, the basket is made adjustable so that it can be moved forward or back when necessary. In a 30 mile wind, there should be no motion apparent in the basket. The cable tension at the balloon should be less than 1000 pounds, and an altitude of 4000 feet readily attainable.—*Aviation*, 1/12.

LESSONS OF THE WAR

THE BIG GUN IN THE BIG SHIP.—There is nothing of the freakish or the phenomenal in the extraordinary growth in size of the battleship and the gun it carries. In every branch of engineering construction it has been proved that [illegible]—bigness—carries with it both economy and efficiency. The 50,000-ton merchant ship shows a greater earning capacity per ton of displacement than two ships of 25,000 tons. The 20-story office building gives a larger return on the investment than two 10-story buildings on separate plots. The mammoth freight engine of 1916, equal in weight to three such of 20 years ago, will haul freight at a fraction of what it cost per ton when three units were necessary to perform the same duty.

Therefore we must be prepared to see a steady increase in the size of the battleship of the future and in the weight and power of its guns. The theory (always attractive, not merely to the layman but to many naval experts) that many small ships would prove superior to a few large ships, has been disproved both in theory and practice. The present war has laid that illusion, if not for all time, at least for the present era.

Size, thick armor and the big gun, as combined in the modern dreadnought, constitute the supreme controlling factor in naval warfare. The

bigger the ship, the thicker her armor, and the more mighty her guns, the more completely will she dominate the naval situation.

One of the most dramatic and instructive phases of the present naval war occurred during the battle of Jutland, when the steering gear of the *Warspite* (of the *Queen Elizabeth* class) gave way and she swung over toward the German battleship line and began to circle. The Germans were quick to appreciate the situation, and seized the opportunity to sink this crack ship. They turned upon her every gun from a half a dozen of their dreadnoughts, and immediately the salvos of 11-inch and 12-inch shells began to straddle her. Such was the fury of this attack, that an officer of the ship declares it was impossible to see the enemy because of the masses of water thrown up by such shells as fell short, the whole sea around the *Warspite* being lashed by heavy projectiles. She was hammered unmercifully, and by all the rules of the game should have gone down, a hopeless wreck. But the *Warspite* did not sink. Very much to the contrary, under that tremendous fire her engineers set right the steering gear and she reached a home port practically intact so far as her vitals were concerned, and before long she returned to take her place in the first line.

Contrast this with what happened to three of the lightly-armored British cruisers, whose nine inches of steel failed to keep out the German 11- and 12-inch shells. Three of these ships were sunk before the fight was many hours old; and they were put down, not by the torpedo, but by the gun. Compare this with the way in which the heavily-armored (11- to 12-inch Krupp plate) German battle cruisers stood up against the fire of the 13.5-inch guns carried by the battle cruisers of Admiral Beatty's squadron.

It begins to look as though the type of ship developed by the experience of the war will be a combination of battleship and battle cruiser, possessing the gun power and heavy armor of the one and the high speed of the other. Manifestly the first, absolutely the first requirement in a ship of the first line is that she shall stay afloat; and this means armor, thick and plentiful and elaborate subdivision. It was this that saved the German battle cruisers, and it was her 13½-inch armor that brought the *Warspite* through. But not only must the battleship stay afloat—she must put the other ship under; and this calls for a gun so heavy that no armor that the enemy can carry will stop the shells that strike.

But armor of maximum thickness plus guns of maximum power spells a ship of maximum displacement. Hence we are disposed to credit the frequent statements by correspondents who have visited the British dockyards, that Great Britain is rushing to completion a division of ships which will mount a battery of 18-inch guns, will be protected by armor and a system of subdivision far exceeding that of any ship now afloat, and will displace 40,000 tons. Such a ship would be the logical outcome of the experience gained during this war. Her 3000-pound projectiles, carrying not less than 300 pounds of high explosive (equal to that of the modern torpedo) would be capable of penetrating any armor now carried, and its wrecking effect inside the ship would be conceivably greater than that of the torpedo.

It is too late to change the plans of the four United States battleships of this year's program, which will mount 10 16-inch guns; but prudence suggests that we should at once build a test gun of 18 to 20 inches caliber, and get out designs for a ship that shall carry at least eight and preferably 10 of them in her main battery.—*Scientific American*, 18/11.

MERCHANT MARINE

ELEVEN MONTHS OF AMERICAN SHIPBUILDING.—The Bureau of Navigation, Department of Commerce, reports 1066 sailing, steam, gas, and unrigged vessels of 488,446 gross tons built in the United States and officially numbered during the 11 months of calendar year 1916. In

addition to the above, there were built for foreigners 36 wooden vessels of 372 gross tons, and 13 steel vessels of 33,265 gross tons; total, 49 vessels of 33,637 gross tons.

AUSTRIAN SHIPBUILDING.—According to the *Neue Freie Presse*, the Austrian Lloyd is continuing to make additions to its fleet, notwithstanding the fact that Austrian shipping has come to a standstill during the war. If this account is to be accepted, there are now under construction for this company 17 steamers of a total of 150,000 tons. Four of these, of 8000 tons each and with accommodation for 250 passengers, are being built at the company's own arsenal, and five vessels, of 10,000 tons each, are being built at the San Rocco Shipyard, while the remaining eight ships of 8500 tons each, are being built elsewhere.—*Shipping Illustrated*, 2/12.

LOSSES OF MERCHANT SHIPS.—*Shipping Illustrated* gives the losses of merchant ships during November as 120, of 285,357 gross tons, with returns incomplete.

CURRENT NAVAL AND PROFESSIONAL PAPERS

NOTE.—Lack of space limits the scope of these references. Upon application, members of the Institute will be supplied with fuller references to current periodicals published in both the United States and foreign countries.

The subject matter is roughly indicated by the following paragraph index:

	PAR. NOS.
STRATEGY	1, 2, 7, 9, 13
TACTICS	16
ENGINEERING	4, 5, 6, 11
ORDNANCE	10, 16
AVIATION	7
INTERNATIONAL LAW AND DIPLOMACY	1, 3, 8, 12, 14
WAR ON LAND	12
WAR ON THE SEA	12

UNITED STATES

1. CENTURY MAGAZINE. **December.**—Japan and the Open Door, by *K. K. Kawakami.* Selling out Alaska (Dutch Harbor as naval base), by a "Naval Expert." The Future of Poland, by *H. A. Gibbons.*

2. ATLANTIC MONTHLY. **December.**—Great Britain's Sea Policy (a defence), by *Gilbert Murray.*

3. WORLD'S WORK. **December.**—China, America's Silent Partner, by *Jeremiah W. Jenks.*

4. INDUSTRIAL MANAGEMENT (Engineering Magazine). **December.**—Standardizing the Characteristics of Men, by *W. F. Kemble.*

5. JOURNAL OF THE AMERICAN SOCIETY OF NAVAL ENGINEERS. **November.**—Characteristics of Lead-acid Type of Storage Battery, by *Lieut. F. A. Daubin.*

6. INTERNATIONAL MARINE ENGINEERING. **December.**—The World-wide Demand for American Ships, by *Stevenson Taylor.*

7. MARINE CORPS GAZETTE. **December.**—Aviation in the Navy, *Lieut. A. A. Cunningham.* Should the Marine Corps Have Its Own War College? by *Col. Ben H. Fuller.*

8. SEA POWER. **December.**—Naval Preparedness, by *Admiral Lord Charles Beresford.* Guam and Its People, by *Verne Simpkins.*

9. THE NAVY. **October.**—Our Water Ramparts (coast canals), by *Wm. J. Roe.*

10. SCIENTIFIC AMERICAN. **November 25.**—Inspection Tests of Lewis Machine Guns.

11. SHIPPING ILLUSTRATED. **November 25.**—Power Forging of Chain Cables.

GREAT BRITAIN

12. QUARTERLY REVIEW. **October.**—Voyage of Discovery in Germany (Kiel Canal in war time), by *J. M. de Beaufort.* The Study of British Foreign Policy, by *Prof. C. H. Firth.*

13. FORTNIGHTLY REVIEW. **November.**—America's New Naval Policy, by *Archibald Hurd.*

14. CONTEMPORARY REVIEW. **November.**—The Civil Strife in Greece, by *H. N. Brailsford.* Sea Power and Civilization, by *Jos. Wickstead.*

15. NINETEENTH CENTURY AND AFTER. **November.**—A Platform for an Imperial Party, by *Henry Wilson Fox.* Belligerent and Neutral from 1756 to 1915 (concluded), by *Sir Francis Piggott.*

CONTINENTAL EUROPE

16. RIVISTA MARITTIMA (Italy). **September.**—Artillery for Defense Against Submarines.

INTERNATIONAL NOTES

1. Naval War Notes 189
2. Diplomatic Notes 204

NAVAL WAR NOTES

Prepared by Lieutenant R. S. Edwards, U. S. Navy

British Naval Strategy 189
Naval Operations in..
Atlantic Ocean 194
North Sea and Channel 195
Baltic Sea 196
The Mediterranean 197
Adriatic and Black Seas..... 197
Table of Losses 198

BRITISH NAVAL STRATEGY AND THE POLICY OF THE ADMIRALTY

The following discussion of the war policy of the Admiralty by Mr. Arthur Pollen appeared in *Land and Water*. .

"Lords Sydenham and Beresford did a public service when, in the course of the debate in the House of Lords, they elicited from the only representative of the Admiralty there present a complete and altogether unqualified repudiation of the 'containment is equivalent to victory' heresy. This is a matter with which I have been wearying the readers of *Land and Water* since the third week of September. Originally my text was the now famous opinion given by Captain Sims of the United States Navy. The German fleet was contained, he said, and there was, therefore, no need for the British fleet to seek a decisive battle. This was the original form in which was set out this very mischievous doctrine. It was curious that so gallant a captain should be heterodox, for the American Navy Board, over which that admirable veteran Admiral George Dewey presides, had quite early in the war laid down the true doctrine in terms that can hardly be improved. All through the autumn of 1915, opinion had been growing in America that the United States Navy was perilously weak and must be reinforced promptly and adequately. In October rumors of Mr. Daniels' new program began to get about, and it was in the course of this autumn that the Navy Board issued their report. I hope on a future occasion to go into this question of American naval activity at greater length. For the moment I am concerned only with the statement of naval doctrine. The Navy Board puts it thus:

"'For the United States, bordering on two great oceans, a navy strong enough only to defend the coast from invasion is insufficient. It must protect our sea trade and commerce and drive the commerce of the enemy from the sea. *The best way to accomplish all these objects is to find and defeat the hostile fleet or any of its detachments.*'

"This being the opinion of the best American naval authority, it seems strange enough that Captain Sims should not have realized, first, that if

the British Navy had the choice between the best and the worst way of achieving its main object, it certainly ought not to be content with the worst, and next that containment did not in fact achieve the navy's true object at all. But there were special reasons, as my readers know, why Captain Sims was led into a statement of principle that may, after all, only have been incautious. It was a quite different thing when the ex-First Lord of the Admiralty, in treating of the battle of Jutland itself, should have laid down not the same doctrine as Captain Sims, but one that went a good deal further in the wrong direction. Mr. Churchill's version of the heresy, it may be remembered, was, that 'without a battle we had all that the most victorious of battle could give us,' and 'that no obligation of war obliged us to go further.' And he added that it was 'no strategic cause' that impelled the British Admirals to the great and gallant fighting of May 31. It was almost as if he had said that *Indefatigable, Queen Mary, Invincible, Defence, Black Prince,* and *Warrior,* the six destroyers and many thousands of officers, petty officers and men, had been lost in the effort to achieve a victory that must have been entirely without influence on the war! It was not then, merely a statement of more than questionable doctrine, it was a direct and most grave imputation on the Admirals who planned and carried out the fighting on that memorable day. For it is surely axiomatic that, next to refusing to fight resolutely and to a finish when victory is possible, there can be no worse offence than to risk ships and men foolishly and recklessly without any adequate military object.

"What was even more amazing than Mr. Churchill's light-hearted emission of such devastating errors, was that the Board of Admiralty was content to lie passive under this imputation on their professional competence, and did not firmly and at once resent the slur Mr. Churchill had put upon Admirals Jellicoe and Beatty. The Lord Mayor's banquet gave Mr. Balfour an opportunity of putting this matter right, but on that occasion he seemed more concerned to defend his colleagues and himself from the charge of naval 'passivity.' He did not seem to realize that the accusation that the Higher Command was actuated from first to last by wholly false notions of strategy was a far more serious charge than that it might, from time to time, lapse into insufficient watchfulness or into odd phases of inactivity.

"It was Lord Sydenham's purpose, he told the House of Lords, to ask the Admiralty for a definite statement one way or another. Did they or did they not endorse the Churchill theory of naval strategy? It fell to Lord Lytton, who has just succeeded the Duke of Devonshire as a Civil Member of the Board, to reply, and we must assume the actual terms that he employed are not merely his own but express the considered opinions of his colleagues. If they are indeed the reply of the Board to Mr. Churchill's challenge, let us say at once that they are almost as satisfactory as they could possibly be. 'If the noble Lord asks,' he said, 'whether it is a fact, that the policy of the Admiralty with regard to naval strategy at the present time is governed by the view, that it is not necessary to seek out and destroy the enemy, and by a feeling that we have at the present time gained all we want, by confining the enemy to their ports, I most emphatically repudiate on behalf of the Admiralty any such suggestion. Neither is it the opinion of the commanders of the fleet, nor of the War Staff of the Admiralty, that it is not our main and first business to seek out and destroy the enemy fleet.' This surely is explicit enough for anyone and should entirely allay that wide-spread alarm and uneasiness to which both Lord Sydenham and Lord Beresford drew attention. And it is particularly gratifying that Lord Lytton's repudiation was not confined to the Board of Admiralty, but included the commanders-in-chief at sea, and the War Staff.

"It seems reasonable then to hope that we have heard the last of open—and I had almost added shameless—advocacy of a defensive national

strategy at sea. And this in its way is a victory of great importance. But we must not fall into the opposite error of thinking it is all the victory we want. It must be admitted—and sorrowfully—that it is a negative victory only. The abjuration of a heresy does not imply a thorough, whole-hearted grasp of the true faith. Indeed, the Grand Inquisitors who were called upon in the Lords to condemn the versatile Mr. Churchill to the stake, were exceedingly tender in their methods, so tender indeed that one of them came perilously near falling into the same heresy himself! Lord Lytton begged to be allowed to say at once that while he held no brief for the opinions expressed in those articles—imagine anyone defending them!—he was inclined to doubt whether they did 'in fact, bear *all* the meaning that had been read into them in various quarters.' And, of course, it is quite possible that a great variety of meanings, not all of them plausible, may have been read in. But surely their simplest meaning was quite sufficient. They propounded the theory that all the fruits of victory could be obtained without the toils and, above all, the risks and cost, that victory involves. What does Mr. Churchill gain from being defended from other heresies, if he stand convicted of this? The significant thing is that Lord Lytton should even make a show of defending him.

"Then what are we to say to one of Lord Crewe's observations, in reply to the one of the mover's points as to certain statements of naval doctrine in essays, honored by the naval authorities by gold medals and commendations? These, said Lord Sydenham, pretended to set out an exhaustive statement of the functions of a fleet and entirely omitted placing decisive action in the forefront. Lord Crewe suggested that the omission might be explained by the fact that 'we used to have debates in this House in which ardent opinions were expressed by some that private property at sea ought to be immune from capture. If that had been so . . . . a very large part of the activities of the fleet would have disappeared altogether." He suggested, in fact, that the old insistence on the subsidiary functions of the fleet—namely, the attack and defence of trade, invasion, etc., became necessary because the worse heresy of the immunity of private property had made this insistence imperative. But two wrongs do not make a right. The point is that the argument, as stated, both officially and unofficially, before the war, threw no emphasis upon decisive victory at all. And it seemed clear enough that the unfortunate indiscretion of Mr. Churchill was only a throw-back to his pre-war frame of mind, and that this in turn was one that was impressed upon him by the traditions and surroundings that he found at Whitehall. It is, no doubt, illuminating to be told that there were other errors which those errors were designed to combat. It is as if one were told that a sick man was hovering between cholera and typhoid, and it was just a question which microbe would ultimately prevail. If the Montagus and Capulets fall out, it is indeed possible that the victory of one is preferable to the victory of the other. But it is a better state if the city is free from anarchy altogether. For the kind of peace that results must always be threatened by the menace of fresh disorders.

"These elementary truths are excellently exemplified in the Lord President's own reply. He, like Lord Lytton, disowned the Churchill heresies in phrases no doubt suggested to him by his naval colleagues. 'The Admiralty,' he said, 'will not be found to agree with the conclusion, by whomever reached, that the destruction of the enemy's fleet is not the first object of our naval policy. The destruction of the enemy's fleet must, it is obvious even to an ignorant landsman like myself, remain the prime object of our naval policy.' All this is excellent, but a few lines further on, when he is dealing with the immunity of private property at sea and alluding to the efforts of those who tried to make this a rule of future wars, he continued as follows: 'If that had been so, it is quite true that the existence of fleets would only have been useful, either for purposes of

invading an enemy country, or *for the holding of gladiatorial combats on the open sea*. A very large part of the activities of the fleet would thus disappear altogether.' Gladiators were men who fought to afford a public entertainment. What, then, was in Lord Crewe's mind when he used the word? Lord Crewe is not a careless speaker. Did he mean that naval victories were always superfluous luxuries, or that if private property were immune from capture decisive naval victory must be barren of results?

"There is something to be said for this view, but surely not so much as this. For, if naval victory meant complete freedom of military transport, with all that this implies for invading purposes, if it meant complete immunity from the fear of invasion, and all that this in turn would mean in releasing additional force for invasion, then immense as would be the military loss that would result from non-contraband trade being free of the enemy's ports, nevertheless much in the way of blockade, would still be feasible, and this, with the other gains, would still make a naval victory of enormous, though not perhaps of crushing importance. So that the term 'gladiatorial' would seem, even with private property immune, a curiously infelicitous term to apply. One is therefore led to ask, was it in fact used because of the abbreviated advantages that would follow in the supposed conditions? May it not have been used because Lord Crewe himself—in spite of his protestations that he is an ignorant landsman—had nevertheless been infected by the heresy that wrecked Mr. Churchill? And in selecting this term, was he, too, harking back to the time when a naval victory was assumed to be just a risky, costly, unpleasant, unnecessary thing, and that to envisage it, to analyse what was needed for winning it, and then to prepare and supply the means, were all works of supererogation?

"However this may be, we must be content for the moment that right doctrine has won a real, though as I have said, a negative victory. The question is, can its scope be extended? The human mind finds it difficult to receive and harbor ideas except through the medium of words, and as one idea gives birth to another, it is a vital matter that all basic principles should be so expressed that the phrases themselves suggest the realities with which they correspond. No terms should be employed that are misleading, either because they are vague or because their meaning is compromised by association with other realities not germane to the matter in hand. If our actual naval policy in war is to be the expression of ideas deriving from the fundamental principles underlying the right use of naval force, it is not, then, a mere question of academic interest that such fundamental principles should be justly and accurately expressed. Now it is noteworthy in the Lords' debate, that several attempts were made to put the root of the matter into words. Lord Lytton, for instance, adopts the phrase, 'To seek out and destroy the enemy.' I have earlier quoted Admiral Dewey's expression 'to find and defeat the hostile fleet or any of its detachments.' Both of these statements, at first sight, seem to be both accurate and almost exhaustive. But in reality the expressions 'find' and 'seek' do not quite meet the requirements of the situation. The words are reminiscent of a naval war that differs in very important particulars from the conditions of to-day. Similarly the phrase, 'containing an enemy's fleet,' meant something very different a hundred years ago from what it means now.

"The addition of two new naval weapons to the gun—which for centuries was the only naval weapon—has mainly brought about these changes. The mine, and the torpedo as wielded by the submarine, impose obvious restrictions, both in seeking out your enemy and in containing him. The development of the underwater ship has indeed made one form of containment literally impossible, because except in unusual circumstances the underwater ship cannot be contained at all. Certainly it cannot be contained until decisive victory has disposed of the enemy's battle force. Further, the speed of modern ships has quite changed the conditions of war.

"Is it possible to find a phrase that meets these changed conditions? It seems to me that it has already been found. On October 9 there appeared in the *Times* a contribution from Sir Reginald Custance to the controversy which Mr. Churchill's indiscretion aroused. It contained the following passage: 'The generally accepted doctrine is, that the aim or object in war, whether by land or sea, is to destroy, disarm or contain—that is neutralize the action of—the enemy's armed force, and that this can only be brought about by battle or the threat of battle.'

"'To destroy or neutralize the action of the enemy's armed' ships: As a definition of the functions of a fighting fleet this really covers the ground completely, for the word 'destroy' covers both all that is necessary for bringing the fleets into contact, when contact is possible, and the operations by which contact is converted into victory. And the word 'neutralize' brings home to us the truth that, while the primary purpose of the navy is to destroy the enemy's fleet, that nevertheless the opportunities for doing so must be rare and may be long delayed, and that in the meantime every naval operation of the enemy's, that is carried out with a view, either to making battle more difficult or to attacking our war units piecemeal or our transports and trade wholesale, must be met by appropriate counter-operations until the battle, from which the enemy flinches, is by a general and unceasing pressure made compulsory to him.

"Let us see, for instance, how this definition compares with the other in the matter of suggestion, in a specific case. If you hear two people arguing, one for a more forward naval policy, the other defending things as they are, it is almost certain that the two sides will be expressed somewhat as follows. One will say that our policy in concentrating our fleet so far to the north is a strategic weakness, that we should have held the North Sea in force—so as to have a more immediate command over the enemy's movements—and thus be sure of bringing him to action the moment he puts out of his harbors. The other side will retort that this implies looking for a general action right on the German coast, where mine-fields unknown to us can be laid, where submarine ambushes can be arranged with the least trouble, where, above all, the enemy can renounce action and retreat to his harbors at the first sign of the action going against him. The first speaker has tried, in a crude way, to apply the doctrine of 'seek out and destroy the enemy,' to modern conditions. The second meets this crudity by the obvious retort of parading the advantages which mines and torpedoes confer on a belligerent who finds shallow waters in the neighborhood of his ports. The first speaker lays himself open by seeming to ignore these dangers. But does not the second fall into the error of taking their prohibitive reality for granted? Is not almost a fresh conception of naval policy imported when we are made to realize that it is a primary duty of the stronger fleet—a duty ranking equally with that of threatening battle and being ready for it—to *neutralize* the enemy's action in this regard? Supposing, for instance, before the war it had been the principle, so expressed, that had been our guide. Should we have had our own naval bases unprotected against submarine attack? Should we have been without any organization for using mines offensively against the enemy? Still more, should we have been practically without any means whatever of preventing the enemy using mines against us? Once grasp what are the possibilities open to the enemy's armed forces; once realize the scope the mine and torpedo possess; once analyse their influence both on strategy and on tactics, with the new problems that they create both for cruising force and for naval artillery in action, and it becomes exceedingly clear what it is that your own fleet must be prepared to do. And, needless to say, had these things been realized at any time between 1911 and 1914, we should have had a fleet composed of different units, organized, trained and equipped in a very different way."

NAVAL OPERATIONS

FROM NOVEMBER 14 TO DECEMBER 14

ATLANTIC OCEAN

RAIDERS REPORTED ON AMERICAN COAST

Reports of the presence of German submarines on the American coast have been numerous during the past month, but if any one has actually seen any of these craft he has given no publicity to the fact. British vessels were warned daily during the last week of November by radio that German submarines might be met anywhere in the vicinity of the United States coast or near Jamaica. On December 4 the *New York Herald* published the following:

PROVIDENCE, R. I., December 3.

The *Providence Journal* will say to-morrow morning:

"The wireless warnings recently issued to captains of merchant vessels in the Western Atlantic were put out by the order of the British Admiralty, with the full knoweldge that there are now in the neighborhood of West Indian waters two large German submarines, which have been here since the visit of the *U-53*, and also because of the knowledge of the British Admiralty that two other German submarines of the newest and speediest type left Kiel for the coast of the United States on November 5 and were able to evade every effort that was made to capture or sink them before they got out of the North Sea.

"The United States Government has been fully informed of this situation, and President Wilson has made strenuous representations to Ambassador von Bernstorff concerning it.

"The *Journal* is able to state authoritatively that the plan of dispatching four of the new German submarines from Kiel on November 5 was known in advance to the British authorities, that all four submarines left Kiel on that date and at different hours, and that two of them were sunk during the same day by British destroyers, the other two getting safely away.

"Advices received by the British Admiralty within the last week, it is now understood, make it certain that one of these submarines was sighted about 60 miles off the coast of Bermuda, heading northwest, on the morning of November 17, and that a small British cruiser sighted another German submarine November 28, about 25 miles from Port Antonio, Jamaica, but could not get within firing distance of her until she had submerged.

"At the time of the *U-53's* departure from Newport, the *Providence Journal* declared that two other German submarines, the *U-48* and the *U-61*, accompanied her to American waters and did not intend to return to German ports with her. The German Ambassador has been kept fully informed from day to day as to the whereabouts of these two submarines, which have never left the waters of the West Indies since they reached there two days after the departure of the *U-53* from this country. Last Wednesday the German Embassy received from Santiago, Cuba, a complete report concerning the whereabouts at that time of these two submarines.

"It has been impossible to ascertain the nature of the correspondence that has been going on during the last week between the White House and the German Embassy, but officials of the Embassy have made no secret, in their private conversation, of the fact that the Ambassador has been warned that the sinking of merchant vessels in, or in the neighborhood of territorial waters of the United States, will no longer be tolerated, and that any repetition of the exploit of the *U-53* will mean a rupture of relations with Germany.

Subsequent to the presentation of this stand of the United States, the German Ambassador has been in almost hourly communication with his government through Sayville, and acting through two commercial houses

in Baltimore, has also been in correspondence with individuals on the Cuban coast, who have undoubtedly in some way transmitted his messages direct to the commanders of the two submarines, which have been in that neighborhood for several weeks."

These reports, as usual, resulted in a flood of statements from merchant ships of submarines sighted all along the coast, of concealed bases discovered and of tenders seen here and there; but so far the submarines, if they exist, have remained inactive. As the submarine excitement began to die down came warnings of a German cruiser sighted in the North Atlantic on December 4; this vessel also has given no active indication of existence.

FUNCHAL SHELLED, "SURPRISE" SUNK

That submarines were in the eastern Atlantic is, however, true, press dispatches dated December 4 telling of the bombardment of Funchal, Madeira, by German U-boats. The date of the incident was not mentioned. It is reported that the bombardment lasted about two hours and resulted in but little damage except the sinking of the French gunboat *Surprise*, a vessel of 636 tons displacement. This incident was closely followed by the sinking of allied merchant vessels off the Canary Islands, and the press offers the conjecture that indications point to the westward movement of a strong German submarine flotilla, with the West Indies possessions of the British and French as the ultimate object. A curious dispatch given out by the Associated Press on December 12, says that two German submarines entered the port of Las Palmas, in the Canary Islands, and moored alongside a German vessel interned there; presumably the U-boats were also interned by the Spanish authorities, but the whole incident seems to lack confirmation. It appears probable that British warnings sent out to vessels in the western Atlantic were based on the operations at Madeira and the Canaries, rather than on the actual presence of submarines on the American coast.

NORTH SEA AND THE CHANNEL

ANOTHER ZEPPLELIN RAID

During the night of November 27-28 German Zeppelins raided England, the most interesting feature being the destruction of two of the raiders at sea as they were returning. One was brought down by airplanes close to the Durham coast, and the other was destroyed nine miles from shore by four airplanes and an armed trawler. The loss is admitted by Berlin. The British official account of the raid as printed in the *New York Herald* is as follows:

"A number of hostile airships approached the northeast coast of England between 10 and 11 p. m. last night. Bombs were dropped at various places in Yorkshire and Durham. The damage is believed to be slight.

"One airship, attacked by airplanes of the Royal Flying Corps, was brought down in flames into the sea off the coast of Durham. Another airship crossed into the North Midland counties and dropped bombs at various places. On her return journey she was repeatedly attacked by airplanes of the Royal Flying Corps and guns. She appears to have been damaged, for the last part of the journey was made at very slow speed. She was unable to reach the coast before day was breaking. Near the Norfolk coast she apparently succeeded in effecting repairs and was proceeding east at high speed and at an altitude of 8000 feet when she was attacked

nine miles out at sea by four machines of the Royal Naval Air Service and an armed trawler and was brought down in flames at a quarter to seven a. m.

"The latest police reports show that the damage and casualties were very slight, although more than 100 bombs are known to have been dropped. One woman died from shock, while five men, seven women and four children were injured.

"In one town 15 houses were seriously and 20 slightly damaged. At other places in which bombs were dropped the damage was insignificant. There was no military damage of importance."

The Zeppelin brought down on the Durham coast was first seen at midnight. It immediately was located by searchlights and soon a shell from the anti-aircraft guns hit her. She burst into flames and fell into the water in two pieces."

The report mentions that at least one airplane accompanied the Zeppelins and succeeded in dropping bombs on London.

REPORTS ZEPPELIN WRECKED IN STORM

The *New York Herald* publishes an unconfirmed report that a new Zeppelin, on a trial trip from Friedrichshaven to Wilhelmshaven, was blown out of her course on November 27 and was wrecked in the woods near Mainz.

GERMAN DESTROYERS RAID BRITISH COAST

During the night of November 23-24 German destroyers—six of them, according to British accounts—bombarded Ramsgate. The Germans report the sinking of a British patrol vessel, but this London denies, saying that no damage was done ashore or afloat except by one shell, which struck a drifter and injured her upper works. The Germans evaded contact with the British fleet, meeting only one armed patrol vessel. The raid was repeated on November 27, the point of attack being on this occasion Lowestoft, 75 miles NE. of Ramsgate. The British trawler *Narval* was sunk.

"NEWCASTLE" SUNK

The British cruiser *Newcastle* is reported to have been sunk on November 15 by striking a mine at the entrance to the Firth of Forth. This report has not been confirmed by London.

"SUFFREN" MISSING

An Associated Press despatch to the *New York Herald* says that the battleship *Suffren* left a French port on November 24 for L'Orient, in Brittany, and has not been heard from since. The French Admiralty considers the vessel lost.

BALTIC SEA

AMMUNITION SHIPS BLOW UP

About November 15 an explosion occurred on board the Russian ammunition ship *Baron Driesen*, moored in the harbor of Bakaritza, near Archangel. Petrograd reports state that two British merchantmen were destroyed in addition to the ammunition ship, and that 341 persons were killed and 667 injured. Berlin despatches claim that seven ammunition ships blew up and 20 other vessels caught fire, and that property damage

was immense, including about $40,000,000 worth of ammunition. Petrograd denies that German submarines were responsible.

RUSSIA CLAIMS CAPTURE OF A ZEPPELIN

The *New York Times* prints the following:

PETROGRAD, November 18 (via London).

Russian troops near Sarny, southeast of Pinsk, have brought down a large Zeppelin airship. The crew of 16 were captured.

With the crew were taken two machine guns, three other guns and 600 pounds of bombs.

MEDITERRANEAN SEA

CHANGE IN COMMAND OF ALLIED FLEET

It is announced from Paris that Admiral Gaucher has replaced Admiral du Fournet in command of the Allied squadron in Greek waters.

BERLIN REPORTS HOSTILE TRANSPORTS SUNK

Associated Press dispatches from Berlin report the sinking of three hostile transports in the Mediterranean. The loss of one of these, the Franch transport *Karnak* (6800 tons) is admitted; this vessel was torpedoed by a submarine near Malta on November 27. London says the other two vessels reported lost were ordinary merchantmen. One was sunk on November 28, and the other on December 3.

BRITISH REPORT CAPTURE OF GERMAN SUBMARINE

MILAN (via Paris), November 24.

British naval forces recently captured a large German submarine, according to the *Corriere Della Sera*. The newspaper says that a British mine sweeper landed 13 sailors and two officers of the crew of the submarine at an Italian port.—*Washington Staf*, 24/11.

"BRITTANIC" SUNK

The White Star liner *Brittanic*, used as a hospital ship, was sunk in the Ægean Sea on November 22, either by a mine or by a torpedo; London despatches indicate that it is generally believed that a mine was the cause. British papers say that there were no wounded on board and that her complement was made up of 625 crew and 500 members of the hospital corps. About 50 persons perished. The *Washington Star* says that Germany believes that the *Brittanic* was a transport and not a hospital ship, but that she was not sunk by a German vessel.

ADRIATIC AND BLACK SEAS

THE "IMPERATRITSA MARIA"

The loss of this vessel, which was reported in the last issue of the PROCEEDINGS, has been confirmed by Russia. The *Washington Post* prints despatches from Perograd, saying that the vessel was lost, not as the result of a mine explosion as at first reported, but by an internal explosion. The reports add that the *Maria* lies in shallow water and may be refloated.

TABLE OF NAVAL LOSSES OF THE VARIOUS BELLIGERENTS SINCE THE OUTBREAK OF WAR

The following table is compiled from various articles appearing in the press of the several belligerent nations. These reports are so contradictory that it is impossible to furnish an absolutely correct list of vessels lost to date. In many cases the belligerent powers have failed to acknowledge the losses of all the vessels. No attempt has been made to include herein a list of the various trawlers, mine-sweepers and such odd small craft which may have been destroyed while mine-sweeping or on submarine patrol duty.

(On the left margin of this table of losses is a reference to the whole number in which an account of the loss is given. A page index of these losses is given in the whole number referred to.

ABBREVIATIONS FOR TYPE OF VESSEL

Dreadnought battleship	d. b.	Torpedo-boat	t. b.
Battleship	b.	Submarine	sm.
Battle cruiser	b. c.	Auxiliary cruiser	ax. c.
Armored cruiser	a. c.	Transport	tr.
Protected cruiser	p. c.	Minelayer	m. l.
Cruiser	c.	Coast guard	c. g.
Light cruiser	l. c.	Hospital ship	h. s.
Gunboat	g. b.	Training ship	tr. s.
Torpedo gunboat	t. g.	Patrol boat	p. b.
Monitor	m.	Armed merchant vessel	a. m. v.
River monitor	r. m.	Yacht	y.
Flotilla leader	f. l.	Naval tender	n. t.
Destroyer	d.		

LOSSES OF GREAT BRITAIN AND HER ALLIES

BRITISH WARSHIP LOSSES

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
154, 155, 156	Audacious	d. b.	23,000	Reported sunk off Irish coast. Cause unknown. British Admiralty, non-committal	27-10-14
155	Bulwark	b.	15,000	Internal explosion at anchor in the Thames	26-11-14
156	Formidable	b.	15,000	Sunk by German sm., North Sea	1- 1-15
156	Irresistible	b.	15,000	Sunk in the Dardanelles	18- 3-15
156	Ocean	b.	12,950	Sunk in the Dardanelles	18- 3-15
161, 162	King Edward VII	b.	16,350	By mine, North Sea	9- 1-16
158	Goliath	b.	12,950	Torpedoed in Dardanelles	12- 5-15
158, 161	Triumph	b.	11,800	Sunk by sm., Dardanelles	25- 5-15
158	Majestic	b.	14,900	Sunk by sm., Dardanelles	27- 5-15
163, 164	Russel	b.	14,000	Sunk by mine, Mediterranean	26- 4-16
164	Queen Mary	b. c.	27,000	Sunk by gunfire, battle of Jutland	31- 5-16
164	Indefatigable	b. c.	18,750	Sunk by gunfire, battle of Jutland	31- 5-16
164	Invincible	b. c.	17,250	Sunk by gunfire, battle of Jutland	31- 5-16
161, 162	Natal	a. c.	13,550	Internal explosion and sunk at anchor	30-12-15
154	Hogue	a. c.	12,000	Sunk by German sm. U-29, North Sea	22- 9-14
154	Cressey	a. c.	12,000	Sunk by German sm. U-29, North Sea	22- 9-14
154	Aboukir	a. c.	12,000	Sunk by German sm. U-29, North Sea	22- 9-14
154, 155	Good Hope	a. c.	14,100	Sunk by German forces in Pacific	1-11-14
154, 155	Monmouth	a. c.	9,800	Sunk by German forces in Pacific	1-11-14
160	Argyll	a. c.	10,850	Ran aground, east coast of Scotland	28-10-15
164	Defense	a. c.	14,600	Sunk by gunfire, battle of Jutland	31- 5-16
164	Black Prince	a. c.	13,550	Sunk by gunfire, battle of Jutland	31- 5-16
153, 164	Warrior	a. c.	13,550	Sunk by gunfire, battle of Jutland	31- 5-16
164	Hampshire	a. c.	10,850	Sunk by mine, off Orkneys	6- 6-16
154	Hawke	l. c.	7,350	Sunk by German sm. U-9, North Sea	16-10-14
153, 155	Pathfinder	l. c.	2,940	Sunk by German sm., North Sea	5- 9-14
165	Falmouth	l. c.	5,250	Sunk by German sm., North Sea	19- 8-16
165	Nottingham	l. c.	5,440	Sunk by German sm., North Sea	19- 8-16
153	Amphion	l. c.	3,360	Sunk by mine, North Sea	6- 8-14
153	Pegasus	l. c.	2,135	Sunk by German c. Koenigsberg at Zanzibar	20- 9-14
162	Arethusa	l. c.	3,750	By mine off east coast of England	14- 2-16
155	Hermes	l. c.	5,600	Sunk by German sm. U-27, North Sea	31-10-14
163	Penelope	l. c.	3,600	Reported damaged beyond repair, attack on Lowestoft	25- 4-16
167	Newcastle	l. c.	4,800	Sunk by mine, Channel	15-11-16
153	Speedy	t. g.	810	Sunk by mine, North Sea	3- 9-14
154, 155	Niger	t. g.	810	Sunk by German sm. while at anchor	11-11-14
164	M-30	m.	——	Sunk by Turkish gunfire, Gulf of Smyrna	13- 5-16
164	Tipperary	f. l.	1,850	Sunk by gunfire, battle of Jutland	31- 5-16
164	Turbulent	f. l.	1,850	Sunk by gunfire, battle of Jutland	31- 5-16

BRITISH WARSHIP LOSSES—Continued

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
	Bullfinch	d.	370	Sunk in collision with Dutch merchant ship	18- 8-14
	——	d.	——	Ran ashore, Scotch coast	27-12-14
	Erne	d.	550	Wrecked in a storm	- 2-15
157, 158	Recruit	d.	385	Sunk by German sm., North Sea	1- 5-15
157, 158	Maori	d.	1,035	Blown up by mine off Belgian coast	7- 5-15
159	Lynx	d.	935	Sunk by mine	10- 8-15
161	Louis	d.	965	Wrecked, Eastern Mediterranean	10-11-15
162	Coquette	d.	365	Sunk by mine, North Sea	?- 3-16
164	Fortune	d.	920	Sunk by gunfire, battle of Jutland	31- 5-16
164	Sparrowhawk	d.	950	Sunk by gunfire, battle of Jutland	31- 5-16
164	Ardent	d.	950	Sunk by gunfire, battle of Jutland	31- 5-16
164	Shark	d.	950	Sunk by gunfire, battle of Jutland	31- 5-16
164	Eden	d.	555	Sunk after collision, English Channel	16- 6-16
164	Nomad	d.	1,200	Sunk by gunfire, battle of Jutland	31- 5-16
164	Nestor	d.	1,200	Sunk by gunfire, battle of Jutland	31- 5-16
165	Lassoo	d.	1,500	Sunk, mine or torpedo, North Sea	13- 8-16
166	Flirt	d.	360	Sunk by gunfire of German d	26-10-16
166	Nubian	d.	985	Torpedoed by German d. and ran aground	26-10-16
158	No. 10	t. b.	244	Sunk by German sm., North Sea	10- 6-15
158	No. 12	t. b.	253	Sunk by German sm., North Sea	10- 6-15
160	No. 96	t. b.	130	Sank after collision with merchantman, Straits of Gibraltar	1-11-15
162	No. 11	t. b.	253	Sunk by mine, North Sea	2- 3-16
153	AE-1	sm.	725-810	Accidentally sunk off Australian coast	14- 9-14
154	E-3	sm.	725-810	Rammed and sunk by German vessel	18-10-14
154, 155	D-5	sm.	550-600	Sunk by German mine, North Sea	3-11-14
	D-2	sm.	550-600	Reported lost. Details not known	1-12-14
	E-10	sm.	725-810	Missing, North Sea	— — —
157	E-15	sm.	725-810	Ran aground in the Dardanelles and destroyed by own picket boats	18- 4-15
162	——	sm.	——	Stranded, Dutch coast	20- 1-16
162	E-17	sm.	725-810	Reported as sunk off Holland	6- 1-16
159, 160	AE-2	sm.	725-810	Sunk, Sea of Marmora	30- 4-15
	E-13	sm.	725-810	Sunk by German torpedo craft off Danish coast	19- 8-15
160	E-7	sm.	725-810	Sunk at Dardanelles	4- 9-15
160, 161	E-20	sm.	——	Announced as sunk by Turks in Dardanelles	5-11-15
163	E-22	sm.	——	Sunk off Holland	25- 5-16
154	Oceanic	ax. c.	17,274	Ran aground off north coast of Scotland in storm	8- 9-14
162, 163	Alcantara	ax. c.	15,300	Sunk in battle, North Sea	29- 2-16
	Rohilla	ax. c.	7,400	Ran aground off Whitby, completely wrecked	30-10-14
156	Viknor	ax. c.	5,386	Lost off Irish coast	14- 1-15
	Clan Macnaughton	ax. c.	4,985	Lost in a gale	3- 2-15
157	Bayano	ax. c.	5,948	Probably torpedoed by German sm. in Irish Sea	12- 3-15
159	Ramsey	ax. c.	——	Sunk by German ax. c. Meteor, North Sea	8- 8-15
159	India	ax. c.	7,900	Sunk by German sm., North Sea	10- 8-15
165	Duke of Albany	a. m. v.	1,977	Sunk by German sm., North Sea	24- 8-16
159	Royal Edward	tr.	11,117	Sunk by sm., Ægean Sea	14- 8-15
160	Marquette	tr.	7,057	Sunk by German sm., Ægean Sea	26-10-15
160	Ramazan	tr.	3,477	Sunk by German sm., Ægean Sea	17- 9-15
161	Woodfield	tr.	3,584	Sunk off coast of Morocco	30-11-15
166	Franconia	tr.	18,000	Torpedoed by German sm	4-10-16
	Hythe	aux.	201	Collision, Ægean	29-10-15
158	Princess Irene	m. l.	——	Internal explosion off Sheerness	27- 5-15
163	Medusa	m. l.	2,800	Collision	- 3-16
161	Abbas	c. g.	298	Sunk by German sm. off Sollum Harbor, Egypt	6-11-15
161	Abdel Monaym	c. g.	598	Sunk by German sm. off Sollum Harbor	6-11-15
161	Anglia	h. s.	1,862	Sunk by mine, English Channel	17-11-15
167	Brittanic	h. s.	——	Mine or sm. in Ægean Sea	22-11-16
	Fishguard II	tr. s.	——	Foundered in gale, North Sea	17- 9-14
160, 161	Tara	p. b.	6,322	Sunk by German sm., Mediterranean	5-11-15
161	Aries	y.	——		15
161	Irene	y.	——		15

FRENCH WARSHIP LOSSES

156	Bouvet	b.	12,007	Sunk at the Dardanelles	18- 3-15
167	Suffren	b.	12,750	Reported missing	-12-16
157	Leon Gambetta	a. c.	12,352	Torpedoed by Austrian sm., Straits of Otranto	26- 4-15

FRENCH WARSHIP LOSSES—Continued

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
162	Amiral Charnier	c.	4,702	Torpedoed, Mediterranean	8- 2-16
156	Mousquet	d.	298	Sunk by Emden at Penang	28-10-14
156	Dague	d.	720	Sunk by Austrian mine off Antivari	24- 2-15
	Branlebas	d.	330	Sunk by mine	——
162	Renaudin	d.	756	Torpedoed, Adriatic	18- 3-16
164	Fourche	d.	845	Sunk by Austrian sm., St. of Otranto	26?-6-16
164	Fantassin	d.	453	Sunk incident to collision	- 6-16
	Zelée	g. b.	636	Sunk by German cruisers at Tahiti	28-10-14
167	Surprise	g. b.	636	Sunk by sm. gunfire at Funchal	-12-14
	No. 347	t. b.	97	Sunk in collision with each other	9-10-14
	No. 338	t. b.	97		
	——	t. b.	——	Reported lost	- 1-15
	No. 331	t. b.	97	Sunk in collision off Cherbourg	16- 6-15
	No. 219	t. b.	87	Sunk off Nieuport	- 1-15
155	Curie	sm.	398-550	Sunk by Austrians at Pola	21-12-14
156	Saphir	sm.	386-450	Sunk at the Dardanelles	17- 1-15
	Joule	sm.	398-550	Mined, Dardanelles	1- 3-15
	Calypso	sm.	345-490	Rammed and sunk during maneuvers off Cape Lardier	8- 7-15
161	Monge	sm.	392-550	Sunk by Austrians, Adriatic	28-12-15
159	Mariotte	sm.	522-615	Sunk at the Dardanelles	26- 7-15
160	Turquoise	sm.	386-450	Injured by gunfire, Sea of Marmora. Refloated by Turks and renamed Ahmed	3-11-15
161	Fresnel	sm.	398-550	Sunk in the Adriatic by an Austrian ship	5-12-15
166	Faucault	sm.	390	Destroyed by Austrian seaplanes	- 9-16
162	Provence	ax. c.	18,400	Torpedoed, Mediterranean	26- 2-16
	Indien	ax. c.	800	Sunk by sm. off Rhodes	8- 9-15
	Calvados	tr.	6,008	Sm., Mediterranean	3- 6-15
167	Karnak	tr.	6,800	German sm., Mediterranean	27-11-16
166	Gallia	tr.	15,000	Sunk by sm	4-10-16
158, 159	Casa Bianca	m. l.	945	Sunk in the Ægean Sea by a mine	4- 6-15

RUSSIAN WARSHIP LOSSES

166, 167	Imperatrista Maria	d. b.	22,500	Sunk by mine or internal explosion	20-10-16
165	Peresviet	b.	12,764	Wrecked near Vladivostock	- 7-16
	Pallada	a. c.	7,775	Sunk by German sm., Baltic	11-10-14
155, 156	Jemtchug	c.	3,130	Sunk by Emden, Penang	28-10-14
	Kubanez	g. b.	1,280	Reported by Turks sunk by Turkish d.	28-10-14
159	Sivutch	g. b.	875	Sunk by Germans, Baltic Sea	20- 8-15
162	Leit Pushtscheen	t. b.	350	Sunk by German sm. near Varna	10- 3-16
	Putschino	t. b.	——	By gunfire	30-10-14
155	Prut	ax. c.	5,440	Scuttled to avoid capture	29-10-14
	Riasan	tr.	3,522	Captured by Emden	6- 8-14
158	Yenisei	m. l.	2,926	Sunk by German sm., Baltic	6- 6-15
	Oleg	m. l.	1,125	Sunk, Black Sea	24-12-14
	Athos	m. l.	1,743	Sunk, Black Sea	24-12-14
163	Portugal	h. s.	——	Torpedoed by German sm	30- 3-16

JAPANESE WARSHIP LOSSES

	Shirotaye	d.	380	Ran ashore, Tsing Tao	4- 9-14
	No. 33	t. b.	82	Sunk by mines while mine-sweeping off Tsing Tao	11-11-14
	Name unknown	t. b.	——	By mine	
167	No. 4	sm.	125	Internal explosion	-11-16
154	Takachiho	p. c.	3,700	Torpedoed by German d., S-90, off Tsing Tao	17-10-14

In addition to the above, five special service ships were sunk during the operations off Tsing Tao.

ITALIAN WARSHIP LOSSES

165	Leonardo da Vinci	d. b.	22,340	Caught fire and blew up, Taranto harbor	- 8-16
160	Benedetto Brin	b.	13,215	Sunk by internal explosion	28- 9-15
158	Amalfi	a. c.	9,958	Sunk by Austrian sm., Adriatic	7- 7-15
158	Garibaldi	a. c.	7,234	Torpedoed off Ragusa, Austrian sm.	18- 7-15
158	Turbine	d.	325	Scuttled to avoid capture after engagement with Austrian vessels, Adriatic	24- 5-15
164	Citta di Messina	ax. c.	3,495	Sunk by Austrian sm., St. of Otranto	26?-6-16
161	Intrepido	d.	680	Sunk by mine, Adriatic	17-12-15
165	Impetuoso	d.	650	Sunk, Austrian sm., Otranto Straits	10- 7-16
	5-PN	t. b.	118	Torpedoed by Austrian sm. off Venice	26- 6-15
	17-OS	t. b.	118	Sunk by own mine while mine-laying off Salvore	- 7-15
158	Medusa	sm.	241-295	Torpedoed and sunk, Austrian sm.	17- 6-15
	Nereide	sm.	221-315	Sunk by Austrian sm., Adriatic	5- 8-15
165	Giacinto Pullino	sm.	400	Captured by Austria	- 8-16
165	——	sm.	——	Reported missing	- 8-16
161	Re Umberto	tr.	——	Sunk by mine, Adriatic	17-12-15

LOSSES OF GERMANY AND HER ALLIES

GERMAN WARSHIP LOSSES

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
164	Pommern	b.	13,040	Sunk by gunfire, battle of Jutland	31- 5-16
164	Lutzow	b. c.	28,000	Sunk by gunfire, battle of Jutland	1- 6-16
155	Yorck	a. c.	9,350	Sunk by German mine near Wilhelmshaven	3-11-14
155, 156, 158	Scharnhorst	a. c.	11,420	Sunk by English forces off Falklands	8-12-14
155, 156, 158	Gneisenau	a. c.	11,420	Sunk by English forces off Falklands	8-12-14
155	Friederich Karl	a. c.	8,858	No official report. Press reports that she was lost in the Baltic	12-14
156, 163	Bluecher	a. c.	15,550	Sunk by British forces off Doggerbank	24- 1-15
160	Prinz Adalbert	a. c.	8,858	Sunk by British sm. in Baltic	23-10-15
153, 154	Mainz	p. c.	4,280	Sunk by British forces, North Sea	28- 8-14
153, 154	Koeln	p. c.	4,280	Sunk by British forces, North Sea	28- 8-14
153, 154	Ariadne	p. c.	2,618	Sunk by British forces, North Sea	28- 8-14
154, 155	Hela	p. c.	2,003	Sunk by British sm. E-9, North Sea	13- 9-14
153	Augsburg	p. c.	4,280	By gunfire	7- 8-14
154, 155, 156, 163, 164	Emden	p. c.	3,592	Sunk by Australian c. Sydney, Indian Ocean	9-11-14
154, 155, 156, 160	Leipzig	p. c.	3,200	Sunk by English forces off Falklands	8-12-14
155, 156, 158	Nurnberg	p. c.	3,396	Sunk by English forces off Falklands	8-12-14
158	Dresden	p. c.	3,592	Sunk by British cruisers in Pacific	14- 3-15
155, 156, 158, 162	Koenigsberg	p. c.	3,340	Sunk by English forces in Rufiji River	11- 7-15
161	Bremen	p. c.	3,300	Sunk by sm. in the Baltic	17-12-15
159	—— (two)	l. c.	——	Gulf of Riga	17- 8-15
153	Magdeburg	l. c.	4,478	Ran ashore in fog in Baltic; blown up by own crew after engagement with Russians	27- 8-14
155	Geier	l. c.	1,630	Interned in Honolulu	8-11-14
160, 161	Undine	l. c.	2,672	Sunk by British sm. in the Baltic	7-11-15
162	Karlsruhe	l. c.	4,822	Press reports state she was blown up by internal explosion while cruising in the Atlantic	4-11-14
164	Elbing	l. c.	5,000	Sunk by gunfire, battle of Jutland	1- 6-16
164	Weisbaden	l. c.	5,000	Sunk by gunfire, battle of Jutland	1- 6-16
164	Rostock	l. c.	4,820	Sunk by gunfire, battle of Jutland	1- 6-16
164	Frauenlob	l. c.	2,650	Sunk by gunfire, battle of Jutland	1- 6-16
	Moewe	g. b.	640	Sunk by her own crew at Dar-es-Salam when English vessels appeared	14- 8-14
	Wissman	g. b.	about 300	Captured by English on Lake Nyasa	20- 8-14
	Planet	g. b.	640	Sunk by her own crew at Yap Island on approach of Japanese fleet	7-10-14
155	Cormoran	g. b.	1,604	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
155	Iltis	g. b.	886	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
155	Tiger	g. b.	886	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
155	Luchs	g. b.	886	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
155	Jaguar	g. b.	886	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
	Tsing-tau	g. b.	168	Interned, China	17- 8-14
	Vaterland	g. b.	168	Interned, China	17- 8-14
154	V-187	d.	689	Sunk by British forces, North Sea	28- 8-14
154	S-115	d.	413	Sunk by English destroyers, North Sea.	17-10-14
154	S-117	d.	413	Sunk by English destroyers, North Sea.	17-10-14
154	S-118	d.	413	Sunk by English destroyers, North Sea.	17-10-14
154	S-119	d.	413	Sunk by English destroyers, North Sea.	17-10-14
154, 162	S-90	d.	396	Driven ashore and wrecked by own crew off Tsing-Tao after having torpedoed the Japanese ship Takachiho	20-10-14
155	Taku	d.	276	Sunk by Germans in Kiao-Chau Bay before surrendering Tsing-Tao to Allies.	6-11-14
155	S-124	d.	463	Accidentally rammed and sunk by a merchant vessel in Baltic	22-11-14
	V-186	d.	750	By gunfire	—— ——
	S-106	d.	400	By gunfire	—— ——
154	S-126	d.	487	By sm.	6-10-14
159	G-196	d.	689	Sunk by British sm., North Sea	26- 7-15
159	——	d.	——	Announced by France as sunk by two French torpedo-boats off Belgian coast.	22- 8-15
	——	d.	——	Reported sunk by Russians in Baltic	19- 8-15
	——	d.	——	Reported sunk by British sm. E-19 between Denmark and Sweden. Not confirmed	14-10-15

GERMAN WARSHIP LOSSES—Continued

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
	S-116	d.	447	Sunk by English sm. E-9, North Sea	6-10-15
164	—— (five)	d.	——	Sunk by gunfire, battle of Jutland	1- 6-16
	A-2	t. b.	about 150	Sunk by British destroyers, North Sea	15- 1-15
	A-6	t. b.	about 150	Sunk by British destroyers, North Sea	15- 1-15
	——	t. b.	——	Officially announced by Russia, blown up by mine	30- 6-15
	——	t. b.	——	Announced by German Admiralty, sunk by mines, Baltic	19- 8-15
	——	t. b.	——	Announced by German Admiralty, sunk by mines, Baltic	19- 8-15
	——	t. b.	——	Sunk by sm., Baltic	17-12-15
159	—— (eight)	t. b.	——	Gulf of Riga	17- 8-15
	——	t. b.	——	Collision, Baltic	15-10-15
153	U-15	sm.	about 450	Sunk by British c. Birmingham	9- 8-15
155	U-18	sm.	about 450	Destroyed by English d. Garry off Scotch coast	23-11-15
160, 161	U-8	sm.	246-295	Sunk by British destroyers	4- 3-15
	U-51	sm.	——	Sunk, Black Sea	17- 7-15
	U-12	sm.	246-295	Rammed and sunk by British d. Ariel	10- 3-15
157	U-29	sm.	840-980	Announced sunk by British. Loss admitted by German Admiralty	26- 3-15
	U-14	sm.	about 500	Sunk by British forces	8- 6-15
159	U-27	sm.	840-890	Announced by German Admiralty as missing	10- 8-15
	U-8 (new)	sm.	900	Interned in Holland	4-11-15
156	U-3	sm.	255	Rammed	9- 8-14
166	U-41	sm.	——	Sunk by gunfire	24- 9-15
166	U-20	sm.	——	Accidentally grounded and destroyed by crew	4-11-16
165	UC-5	sm.	200	Captured by British p. b.	27- 4-15
167	——	sm.	——	Captured by British in Mediterranean	-11-16
	Friedrich	ax. c.	8,865	Interned, Norfolk	7- 4-15
157	Kronprinz Wilhelm	ax. c.	14,705	Interned, Norfolk	29- 4-15
155	Berlin	ax. c.	17,324	Interned, Norway	16-11-14
	Patagonia	ax. c.	——	Seized by Argentina, violation of neutrality	16-11-14
	Eber	ax. c.	1,000	Interned, Bahia	- 9-14
161	Kormoran II	ax. c.	3,508	Interned, Guam	15-12-14
	Prince Adalbert	ax. c.	6,030	Captured by British c.	- 8-14
	Sudmark	ax. c.	5,113	Captured by British c.	15- 8-14
153	Kaiser Wilhelm der Grosse	ax. c.	13,952	Sunk by British c. Highflyer	27- 8-14
	Bethania	ax. c.	7,548	Captured by British c.	7- 9-14
	Spreewald	ax. c.	3,899	Captured by British c.	12- 9-14
153	Cap Trafalgar	ax. c.	18,710	Sunk by British ax. c. Carmania	14- 9-14
	Max Brock	ax. c.	4,579	Captured by British c.	- 9-14
	Graecia	ax. c.	2,753	Captured by English c.	10-10-14
	Markomannia	ax. c.	4,505	Sunk by British c. in Indian Ocean	16-10-14
	Navarra	ax. c.	5,794	Sunk by English ax. c. in Atlantic	11-11-14
	Eleonore Woermann	ax. c.	4,624	Sunk by Australian c. Australia	6- 1-15
158	Macedonia	ax. c.	4,347	Captured	30- 4-15
162	Greif	ax. c.	1,165	Sunk in battle, North Sea	29- 2-16
	Karnac	ax. tr.	4,437	Interned, Chile	-11-14
164	Hermann	ax. c.	3,000	Sunk by Russian destroyers	13- 6-16
153	Königin Luise	m. l.	2,163	Sunk by English d., North Sea	5- 8-14
158, 159	Albatross	m. l.	2,165	Sunk by Russians in Baltic. Reported raised and interned in Sweden	2- 7-15
159	Meteor	m. l.	3,613	Sunk by own crew after attempting to escape British forces, North Sea	8- 8-15
	Kingani	a. m. v.	——	Captured by the British on Lake Tanganyka	
	Locksun	n. t.	1,020	Interned, Honolulu	8-11-14
158	Ophelia	——	1,153	Captured by English c., North Sea. English claim vessel an ax. c., while Germany claims her a hospital ship	17-10-15

In addition to the above, there seems to be no doubt that a great number of German submarines have been destroyed around the British Isles and possibly also in the Mediterranean and near the Dardanelles.

AUSTRIAN WARSHIP LOSSES

153	Zenta	c.	2,264	Sunk by French fleet off Antivari	16- 8-14
155, 162	Kaiserin Elizabeth	c.	3,937	Sunk by her own crew at Tsing-Tao	7-11-14
161	—— (Novara type)	c.	3,384	Torpedoed	13- 1-16
	——	g. b.	——	Sunk, Adriatic	24- 5-15
	Temes	r. m.	433	Struck a mine and sank off Shabatz	23-10-14
161	Triglav	d.	787	Sunk by gunfire in Adriatic	29-12-15

AUSTRIAN WARSHIP LOSSES—Continued

WHOLE NUMBER	NAME	TYPE	TONNAGE	REMARKS	DATE
161	Lika	d.	787	Sunk by mine in Adriatic	29-12-15
153	No. 19	t. b.	78	Struck by a mine and sank at entrance to Pola	18- 8-14
——		t. b.	——	Sunk by mine in Adriatic	
——		t. b.	——	Sunk by mine in Adriatic	
——		sm.	——	Sunk by an Italian d.	17- 5-15
	U-18	sm.	685-860	Reported by France sunk by a French aeroplane, Adriatic	1- 7-15
159	U-12	sm.	——	Torpedoed and sunk by an Italian sm., upper Adriatic	12- 8-15
159	U-3	sm.	233-295	Sunk by French d. Bisson	13- 8-15
——		sm.	——	Gunfire, French fleet	
	U-11	sm.	860	Sunk by aeroplane	1- 7-15
——		tr.	5,000	Sunk by Italian warships, Dmazzo roads; loaded with munitions	——
——		tr.	3,000	Sunk by Italian warships, Dmazzo roads; loaded with munitions	——
162	Elektra	h. s.	——	Torpedoed, Adriatic	18- 3-16
	Beethoven	tr. s.	——	Struck a mine and foundered	17-12-14

TURKISH WARSHIP LOSSES

155	Messudyeh	b.	10,000	Sunk by British sm. B-11, Dardanelles	14-12-14
	Kheyr-Ed-Din	b.	9,900	Torpedoed by British, Sea of Marmora.	9- 8-15
158	Mejidieh	c.	3,330	Sunk by Russian mine, Gulf of Odessa.	3- 4-15
161	Doruk Reis (type)	g. b.	502	Sunk by Russian d.	10-12-15
158	Pelenk-I-Derih	g. b.	886	Sunk in Sea of Marmora, British sm.	24- 5-15
	Marmaris	g. b.	492	Sunk by British in Tigris River	1- 6-15
158, 159	Berk-i-Satvet (type)	g. b.	725	By mine near Dardanelles	29- 4-15
161	Issa Reis (type)	g. b.	500	Scuttled	1-11-14
	Malatia	g. b.	210	Officially reported by Petrograd as sunk in Black Sea	10-12-15
	Yadikar Milet	d.	610	Sunk by British sm.	5-15
159, 161	Yar Hissar	d.	284	Sunk by British sm., Sea of Marmora.	6- 9-15
	Demir Hissar	t. b.	97	Stranded and interned at Chios	17- 4-15
157	Dhair Hissar	t. b.	97	Driven ashore, Greece	17- 4-15
	Nagara	tr.	——	Sunk by British sm., Sea of Marmora.	5-15
158	—— (three)	tr.	——	Sunk by Russian warships; contained troops	——
160	Carmen	tr.	4,424	Sm., Marmora	24-10-15
161	Rechid Pasha	tr.	8,000	Sm., Marmora	12-15
	Bezemialen	tr.	——	Sunk, Black Sea	14-11-14
	Bachriachmar	tr.	——	Sunk, Black Sea	14-11-14
	Midiat Pasha	tr.	——	Sunk by sm.	14-11-14
166	Rodosto	tr.	6,000	Captured by Russian sm.	10-16

In addition to the above, other Turkish men-of-war may have been destroyed around the Dardanelles and in the Black Sea. Reports from England, Russia and Turkey in regard to these operations are so conflicting that it is impossible to accurately state what Turkish vessels have been destroyed, especially transports and supply ships.

INDEX OF WAR VESSEL LOSSES MENTIONED IN THIS NUMBER

BRITISH VESSELS

Newcastle 196
Brittanic 197

FRENCH VESSELS

Surprise 195
Suffren 196
Karnak 197

JAPANESE VESSELS

Submarine No. 4 145

GERMAN VESSELS

One submarine 197

DIPLOMATIC NOTES

Prepared by A. F. WESTCOTT, PH. D., Instructor, U. S. Naval Academy

CENTRAL POWERS MOVE FOR PEACE

Chancellor von Bethmann-Hollweg on **December 12** read in the Reichstag a Note prepared by the Central Powers proposing negotiations for peace. Identic copies of the Note were despatched by Germany, Austria, Bulgaria, and Turkey to the United States, Spain, and Switzerland for transmission to enemy powers. The Note postulated "a guarantee of the existence, honor, and liberty of evolution" (of the Central Powers) as the basis of a lasting peace. It affirmed the invincibility of the Central Powers and disclaimed responsibility if the war should continue. Notes similar in purport were despatched to other neutral states and to the Vatican requesting their support for the proposal. Following is the text:

BERLIN (via Sayville), December 13.

The most terrific war ever experienced in history has been raging for the last two years and a half over a large part of the world—a catastrophe which thousands of years of common civilization was unable to prevent, and which injures the most precious achievements of humanity.

Our aims are not to shatter nor annihilate our adversaries. In spite of our consciousness of our military and economic strength and our readiness to continue the war (which has been forced upon us) until the bitter end, if necessary; at the same time prompted by the desire to avoid further bloodshed and make an end to the atrocities of war, the four allied powers propose to enter forthwith into peace negotiations.

The propositions which they bring forward for such negotiations and which have for their object a guarantee of the existence, of the honor and liberty of evolution for their nations are, according to their firm belief, an appropriate basis for the establishment of a lasting peace.

The four allied powers have been obliged to take up arms to defend justice and the liberty of national evolution. The glorious deeds of our armies have in no way altered their purpose. We always maintained the firm belief that our own rights and justified claims in no way control the rights of these nations.

The spiritual and material progress which were the pride of Europe at the beginning of the twentieth century are threatened with ruin. Germany and her allies—Austria-Hungary, Bulgaria and Turkey—gave proof of their unconquerable strength in this struggle. They gained gigantic advantages over adversaries superior in number and war material. Our lines stand unshaken against ever repeated attempts made by armies.

The last attacks in the Balkans has been rapidly and victoriously overcome. The most recent events have demonstrated that further continuance of the war will not result in breaking the resistance of our forces, and the whole situation with regard to our troops justifies our expectation of further successes.

If in spite of this offer of peace and reconciliation the struggle should go on, the four allied powers are resolved to continue to a victorious end, but they disclaim responsibility for this before humanity and history. The im-

perial government, through the good offices of Your Excellency, ask the government (here is inserted the name of the neutral power addressed in each instance) to bring this communication to the knowledge of the government of (here are inserted the names of the belligerents.)

TERMS OF PEACE

No terms of peace are proposed by the Central Powers, nor is an armistice requested. Washington dispatches of December 14 state that the immediate object is to secure a conference of belligerents, preferably at the Hague in the course of the present winter, as a preliminary to more definite proposals. It is stated that the terms of the Teutonic allies are in readiness for submission at the proper time.

The nature of these terms is a matter of conjecture. The *London Daily Telegraph* (December 13) reported from "an unimpeachable source" that Belgium was invited to insist on immediate peace, in return for independence and financial assistance; otherwise "her very existence—her monuments, her public buildings, and even her towns—is threatened." From German sources in Holland the *London Daily Chronicle* (December 13) stated that Germany offered (1) return of all occupied territory except Poland and part of Lithuania; (2) Poland to be set up as an independent kingdom; (3) Germany to receive back her colonies, and to secure guarantees against invasion through Belgium; (4) Balkan questions to be settled in conference.

NEUTRALS TRANSMIT NOTE

Switzerland at once transmitted the German note to the Swiss Minister at Rome for presentation to the Italian Foreign Office. According to Washington dispatches of December 15, the United States Government had decided to transmit the note without comment.

ATTITUDE OF THE ENTENTE

The attitude of Russia and its hopes from the German offers are reflected by the prompt action of the Duma on December 15 in passing a resolution in favor of rejecting the enemy proposals.

GREAT BRITAIN

LLOYD GEORGE PREMIER

A campaign for more vigorous prosecution of the war, with a War Council from which Mr. Asquith should be excluded, resulted on **December 6** in the resignation of Premier Asquith and his Cabinet. On **December 7** announcement was made of the refusal of the Premiership by Mr. Bonar Law and its acceptance by Mr. Lloyd-George. The conduct of the war is turned over to a War Council of five members, of which the Premier is head.

THE NEW CABINET

IN THE WAR COUNCIL

Premier—DAVID LLOYD GEORGE, (L.)
Lord President of the Council—Earl CURZON, (U.) [To be Government leader in the House of Lords.]

Chancellor of the Exchequer—ANDREW BONAR LAW, (U.) [To be Government leader in the House of Commons.]
Without Portfolio—ARTHUR HENDERSON, (Lab.)
Without Portfolio—Lord MILNER, (U.)

NOT IN THE COUNCIL

Lord High Chancellor—Sir ROBERT BANNATYNE FINLAY, (U.)
Secretary of State for the Home Department—Sir GEORGE CAVE, (U.)
Secretary of State for Foreign Affairs—ARTHUR J. BALFOUR, (U.)
Secretary of State for the Colonies—WALTER HUME LONG, (U.)
Secretary of State for War—The Earl of DERBY, (U.)
Secretary of State for India—AUSTEN CHAMBERLAIN, (U.)
President of the Local Government Board—Baron RHONDDA (DAVID A. THOMAS), (L.)
President of the Board of Trade—Sir ALBERT STANLEY.
Minister of Labor—JOHN HODGE, (Lab.)
First Lord of the Admiralty—Sir EDWARD CARSON, (U.)
Minister of Munitions—Dr. CHRISTOPHER ADDISON, (L.)
Minister of Blockade—Lord ROBERT CECIL, (U.)
Food Controller—Baron DEVENPORT, (L.)
Shipping Controller—Sir JOSEPH PATON MACLAY.
President of the Board of Agriculture—ROWLAND E. PROTHERO, (U.)
President of the Board of Education—HERBERT A. L. FISHER.
First Commissioner of Works—Sir ALFRED M. MOND, (L.)
Chancellor of the Duchy of Lancaster—Sir FREDERICK CAWLEY, (L.)
Postmaster General—ALBERT ILLINGWORTH, (L.)
Minister of Pensions—GEORGE N. BARNES, (Lab.)
Attorney General—Sir FREDERICK E. SMITH, (U.)
Solicitor General—GORDON HEWART, K. C., (L.)
Secretary for Scotland—Mr. MUNRO, (L.)
Lord Advocate—JAMES A. CLYDE, K. C., (L. U.)
Solicitor General for Scotland—THOMAS B. MORISON, K. C., (L.)
Lord Lieutenant of Ireland—Baron WIMBORNE, (U.)
Chief Secretary for Ireland—HENRY E. DUKE, (U.)
Lord Chancellor for Ireland—Sir IGNATIUS J. O'BRIEN, K. C., (L.)

The complexion of the new government is 12 Liberals, 15 Unionists, three Laborites and the Presidents of the Boards of Trade and Education, and the Shipping Controller, who have been attached to no parties.

The War Cabinet will hold daily sessions, directing the prosecution of the war, and the freedom of Mr. Lloyd George, Lord Milner, and Mr. Henderson from departmental duties will allow them to devote all their time to the war council.—*N. Y. Times*, 11/12.

SAFE CONDUCT DENIED TO AUSTRIAN AMBASSADOR

On November 28 the British Government refused the Austrian request, transmitted by the Spanish Government, for a safe conduct to Count Tarnowski von Tarnow, the newly appointed Austrian Ambassador to the United States. The Ambassador was at the time in Holland, booked to sail December 16. The British Government is said to have based its action on the previous activities of Teutonic envoys in excess of their legitimate functions.

The United States took up the matter in a note to Great Britain and France, November 29, and in a second communication dated December 11,

in each case acting merely in behalf of Austria, but stating that it regarded the unhindered passage of the envoy as a part of the admitted right of diplomatic intercourse. London despatches of December 15 reported that the Allies had responded favorably to these requests.

MONEY AND SECURITIES CONTRABAND

LONDON, November 23.

A royal proclamation issued to-day declares that henceforth gold, silver, and paper money, securities, checks, drafts, letters of credit and any negotiable instruments or documents relating to the transfer of money, credits or securities will be treated as contraband.

Great Britain's new ruling regarding seizures of money and securities coming from or going to the Central Powers will make no change in the international situation, it was said by New York financiers last night. As characterized by one prominent international banker, it amounts to nothing more than a public declaration of a policy which has been in vogue for some time.—*N. Y. Times*, 24/11.

FRANCE

GOVERNMENT REORGANIZED

On December 13, M. Aristide Briand, French Premier, announced his reconstructed cabinet. The five following members constitute a Council of National Defence:

Premier and Minister of Foreign Affairs, M. Aristide Briand.

Minister of Finance, M. Alexander Ribot.

Minister of War, General Hubert Lyautey.

Minister of Marine, Rear Admiral Lacaze.

Minister of Fabrication Nationale, including Munitions and Transportation, M. Albert Thomas.

Six additional members complete the cabinet, which is the smallest since the Third Empire. Seven members of the former Ministry are retained. On December 13 the Chamber of Deputies by a vote of 314 to 165 gave the reconstructed cabinet its support.

By an order of December 13, General Joffre was made "commander-in-chief of the French armies, technical counsel of the government regarding the direction of the war." General Nivelle, in command on the western front, and General Sarrail, at Salonica, were made responsible directly to the Minister of War.

RUSSIA

DUMA FORCES CABINET CHANGES

The resignation of M. Stürmer, Russian Premier and Minister of Foreign Affairs, and the succession of M. Trepoff, were announced on November 24. M. Pokrovsky succeeded M. Stürmer in the Foreign Office. Stürmer became Premier in February, 1916, and took M. Sazonoff's place in the Foreign Office last July. He was reactionary in policy, and was even accused of secret negotiations for a separate peace. His downfall, accomplished by the Duma with the aid of the Ministers of War and of Marine, is regarded as a signal event in Russian political history, and as evidence of the failure of German intrigues to separate Russia from the Entente.

DARDANELLES TO RUSSIA

On December 2, Premier Trepoff announced to the Duma that by an agreement concluded in 1915, and subsequently adhered to by Italy, the Allies definitely recognized Russia's right to Constantinople and the

strait. The agreement had been for some time a matter of common knowledge, but had not before been publicly and formally announced.

GERMANY

ZIMMERMAN SUCCEEDS VON JAGOW

The resignation of Herr von Jagow, German Minister of Foreign Affairs, and the succession of Dr. Alfred Zimmerman, former Under Secretary, appeared in German dispatches of November 21. Von Jagow's retirement is explained by ill health, but it has been connected also with the entry of Roumania into the war and the failure of schemes to secure a separate peace with Russia.

Herr Zimmerman has had long experience in the foreign service. He is the first German Foreign Secretary to rise from the Consular Corps, and the first also not of noble family. His methods are described as open and business-like. Dr. Wilhelm von Stumm, formerly head of the "American Department" of the foreign office, is promoted to Under Secretary.

"MARINA" CASE

The German reply in the *Marina* controversy was received by Secretary Lansing on November 28. It is understood to state that the German submarine officer took the *Marina* for a British transport, and to request further information regarding the actual status of the vessel. If it appeared that she was a merchant vessel not in the Admiralty service, the German Government offered reparation.

It was announced from Washington on December 11 that the information requested by Germany had, as a matter of courtesy, been forwarded. The information is said to show: (1) that the *Marina* was sunk without warning 100 miles from the coast with no provision for the safety of those on board; (2) that she was not and had not been under Admiralty charter, but was engaged in transporting horses to the Allies at so much per head. The submarine commander's action would thus appear to be in violation of the pledges given after the *Sussex* attack.

ATTACKS ON AMERICAN VESSELS

In a note dated December 9, referring to the sinking of the *Lanao*, Secretary Zimmerman stated that the crew were taken on board the submarine and afterward transferred to a Norwegian vessel. The *Lanao*, according to the note, belonged originally to a Philippine firm, but "was sold in July, 1916, to Hannewig Brothers of London and sailed since under the English flag." According to the deposition of the captain of the *Lanao* (see Nov.-Dec. Institute), the *Lanao* flew the United States flag and was still under American registry, in which case Germany might be liable for damages as in the case of the *Frye*.

On November 27 the American steamship *Chemung* was sunk by an Austrian submarine (according to the report of the American consul at Valencia), off Cape de Gata, Spain. The ship's boats were taken in tow by the submarine and the vessel was sunk with flag flying, the American captain refusing to lower the colors. There is no special treaty with Austria concerning the destruction of vessels laden with contraband.

"ARABIA" NOTE

The text of the German Government's note regarding the sinking of the *Arabia* follows:

"Foreign Office,
"BERLIN, December 4, 1916.

"The undersigned has the honor to inform Mr. Grew, Chargé d'Affaires of the United States of America, in reply to the note of the 21st ultimo,

Foreign Office, No. 14.401, that the investigation conducted by the German Government concerning the sinking of the British steamer *Arabia* has led to the following results:

"On the morning of November 6 a German submarine encountered a large steamer coming from the Cerigo Straits, 100 nautical miles west of the Island of Cerigo; the steamer was painted black and had black superstructures, and not, as is otherwise the case with the P. & O. Line superstructures, a light color; the steamer which was identical with the *Arabia*, was not traveling on the route regularly used by the passenger steamers between Port Said and Malta, as is made plain on the inclosed map, but was taking a zigzag course toward the west, 120 nautical miles north of that route; this course, on which the submarine had passed three similar steamers at the same spot on the same morning, leads from the Ægean to Malta, so that the *Arabia* was moving on the transport route Cerigo-Malta, used solely for war purposes, according to the experiences until now. The commander of the submarine further ascertained that there were large batches of Chinese and other colored persons in their national costumes on board the steamer; he considered them to be workmen soldiers, such as are used in great numbers behind the front by the enemies of Germany; in spite of the clear weather and careful observation, he did not perceive any women and children.

"In these circumstances, the commander of the submarine was convinced that in the case of this steamer he was concerned with a transport ship for troops in the service of the British Government, which is to be considered as an auxiliary warship, according to international law, and can therefore be treated like a warship. He accordingly considered himself justified in attacking the steamer without delay, and sank it.

Should the American Government give the official data showing that the *Arabia* was at the time of the torpedoing an ordinary passenger steamer, the action of the commander would not have been in accordance with the instructions given him, since these instructions are now, as before, in agreement with the assurances of the German note of May, 1916. This would then be a case of a regrettable mistake, from which the German Government would promptly draw the appropriate consequences.

The undersigned requests the Chargé d'Affaires to bring the above to the knowledge of the American Government and avails himself.

(Signed) ZIMMERMANN.

It may be said that the United States does not regard the circumstances which the German note recites as showing justification for sinking the *Arabia* without warning or as relieving the submarine commander of the responsibility of establishing the status of the liner.

It may be stated authoritatively that no immediate action will be taken, as another step is regarded as too serious to be taken without complete facts. It hinges entirely on whether the pledges given in the *Sussex* case were broken. The note in the *Arabia* case is not regarded in official quarters as making out a strong case for Germany.—*N. Y. Times*, 8/12.

VIOLATIONS OF GERMAN PLEDGE

The British Admiralty has compiled a list of 22 British merchant ships which have been torpedoed without warning since the German pledge to adhere to the rules of cruiser warfare was made to President Wilson on May 5 last.

A second Admiralty table gives the names of 107 ships of British registry sunk by German submarines in the same period which, it is stated, were sunk and "the lives of the crews and passengers imperiled through their being forced to take to the sea in open boats, while their ships were a target for the enemy's guns."

The first list, covering the period from May 5 to October 21, is as follows:

Vessels	Tonnage	Date	Miles from Land
Cymric (four lives lost)	13,370	May 8	140
Golconda (19 lives lost)	5,874	June 3	..
Moeris (three lives lost)	3,409	June 30	46
Calypso (30 lives lost)	2,876	.....	..
Euphorbia (11 lives lost)	3,837	July 16	46
Aaro (three lives lost)	2,603	Aug. 1	North Sea
Swift Wings (two lives lost)	4,465	Sept. 1	18
Butetown	3,789	Sept. 8	60
Llangorse	3,841	Sept. 8	48
Inverbervie (six lives lost)	3,841	Sept. 14	20
Italiana	2,663	Sept. 14	112
Dewa (three lives lost)	3,802	Sept. 17	45
Lord Tredegar (four lives lost)	3,856	Sept. 17	51
Kennett (30 lives lost)	1,679	Sept. 22	Gulf of Finland
Secondo	3,912	Sept. 27	40
Huntsfall	4,331	Oct. 2	12
Franconia (12 lives lost)	18,150	Oct. 4	195
Elax	3,980	Oct. 10	70
Crosshill (four lives lost)	5,002	Oct. 11	60
Sebek	4,601	Oct. 10	..
Penylan	3,875	Oct. 19	..
Marina	5,204	.....	..

N. Y. Times, 3/11.

BELGIAN DEPORTATIONS

On November 16 was published the text of a note addressed to neutral nations by the Belgian Government, protesting against the deportation of Belgian laborers to Germany. According to the note, men were "assembled, examined like cattle, and those found strongest sent away to unknown destinations." They were employed in Germany in industries directly or indirectly essential to the prosecution of war, and as a means of relieving Germans for service at the front.

In response to this protest, the United States requested Secretary Joseph C. Grew, American Chargé d'Affaires at Berlin, to lay the matter informally before the German Chancellor; and this action was supplemented on November 29 by a note, as follows:

"The government of the United States has learned with the greatest concern and regret of the policy of the German Government to deport from Belgium a portion of the civilian population for the purpose of forcing them to labor in Germany, and is constrained to protest in a friendly spirit but most solemnly against this action, which is in contravention of all precedent and of those humane principles of international practice which have long been accepted and followed by civilized nations in their treatment of non-combatants in conquered territory.

"Furthermore, the government of the United States is convinced that the effect of this policy, if pursued, will be in all probability fatal to Belgian relief work, so humanely planned and so successfully carried out, a result which would be generally deplored, and which, it is assumed, would seriously embarrass the German Government."

A German official statement, issued December 7, defended the transfer of Belgian laborers to Germany as a social and economic necessity. It stated that of 1,200,000 employes engaged in Belgian industries before the war, 505,000 were now wholly without work and dependent on public aid. A German reply to the American representations was handed to Secretary Grew on December 11.

AUSTRIA

DEATH OF FRANCIS JOSEPH

Emperor Francis Joseph of Austria died on November 21, in the 87th year of his age, and the 69th of his reign. He is succeeded by his grand-nephew, Charles Francis Joseph, who takes the throne as Charles I of Austria and Charles IV of Hungary. The change of rulers, which before the war was considered likely to break up the dual monarchy, has as yet had no clearly discerned effect on the internal or the international situations.

Charles I is 29 years of age, and since the outbreak of the war has been constantly with the armies at the front. His chief political adviser, prior to the war, was Count Berchtold, who left the Cabinet in January, 1915, because of his opposition to domination from Berlin. The new empress prior to her marriage was Princess Zita of the Bourbon house of Parma. Two of her brothers are officers in the Belgian Army.

CABINET RESIGNS

On December 14 was announced the resignation of the von Koerber Cabinet, formed November 1, after the assassination of Premier Stuerghk.

The new Cabinet is headed by Alexander Spitzmüller, with Count Czernin von Chudenitz, former Minister to Roumania, as Minister of Foreign Affairs.

GREECE

THE EMBROGLIO AT ATHENS

At the order of Vice Admiral du Fournet, commanding the Allied Fleet in Grecian waters, the Ministers of the Central Powers left Athens on November 22, and were conveyed to the Bulgarian port of Dedeagatch.

As compensation for the surrender of Greek troops and munitions to the Bulgarians at Kavala, Admiral du Fournet presented an ultimatum requiring that Greece turn over surplus munitions, including 34 batteries of artillery, 40,000 rifles, 140 machine guns, and 50 motor vans, 10 batteries to be surrendered on December 1, and the remainder by December 15.

Upon the refusal of this demand by King Constantine and his Crown Council, the admiral, on the evening of November 30, landed 2000 sailors from the Allied Fleet and marched next day to occupy public buildings in Athens. His forces were fired upon by Greek troops, and fighting continued through the day, with some 200 casualities. An armistice was finally arranged and terms agreed upon in accordance with which the King surrendered six batteries and the Allied forces withdrew from Athens.

On December 8, the Allies declared a blockade of the Greek coast. A new ultimatum was presented December 10, which, according to press dispatches, required demobilization of Greek forces, Allied control of communications, and release of Venizelist prisoners. According to reports from Athens of December 16, Greece has professed compliance with these demands.

LEGAL STATUS OF ALLIES IN GREECE

According to a press statement issued by Lord Grey on December 8, the Allies justify intervention in Greece by the treaty of November 14, 1863, which, with the consent of Germany and Austria, recognized England, France, and Russia as "guaranteeing powers of the Kingdom of Greece"; while the treaty of March 11, 1864, by which the Ionian Islands were transferred from British to Grecian control, declared that Greece "shall form a monarchical, independent, and constitutional state . . . . under the guarantee of the Three Courts." Furthermore, Allied troops entered Salonica with the express sanction of M. Venizelos, then Premier of Greece.

UNITED STATES

MARTIAL LAW IN SANTO DOMINGO

PLAN IS TO CHECK REVOLUTIONS AND ARRANGE FOR PROMPT PAYMENT OF FOREIGN LIABILITIES

WASHINGTON, November 30.

Under instructions from Washington, Captain Harry S. Knapp, who is in command of the American forces in Santo Domingo, notified Secretary Daniels to-day that in compliance with instructions military government was proclaimed by him in that republic at 4 o'clock yesterday afternoon.

It was explained in official circles that it became necessary to set up a military government and make laws in Santo Domingo in order to enable the Dominican Government to pay the interest on its foreign debt in accordance with the treaty of 1907 between this country and Santo Domingo, under which the customs receipts of that country are collected by an American Receiver General of Customs, and disbursed in accordance with the terms of that agreement Part of the collection goes toward the payment of interest and principal on the bonds issued to cover the Dominican foreign debt, and the rest of the receipts go to the Dominican Government for its own use.

Under the military government put into effect by Captain Knapp's proclamation Captain Knapp will act as Military Governor, and while so acting not only will provide for the payment of $100,000 a month to the fiscal agent of the loan, the Guaranty Trust Company of New York, and interest on any other existing foreign obligations, but also will see that the salaries of Dominican Government officials and expenses of the government are paid. —*N. Y. Times,* 30/11.

THE AMERICAN LOAN TO CHINA

PEKING, November 25.

The terms of the American loan of £1,000,000 have created some sensation in China. The policy of the interested powers is to ensure that money lent shall be profitably spent, and to create security with a permanent value. Mr. Wilson is now supporting a transaction for a practically clean loan to China in terms exactly the contrary of those postulated by the Consortium as essential to her preservation.

It had been hoped that the United States would re-enter the Consortium and range herself with the other powers in dealing with the financial deadlock to which this country is steadily marching. An independent policy involving further unconditional assistance on the part of the United States can only serve to postpone the evil day.

The Consortium banks have protested against the transaction on the ground that they have first claim to undertake loans for administrative purposes, and that negotiations for a loan are actually in progress at the present time. The Consortium, however, has taken an unconscionable time for consideration, and while London, Paris, and Tokyo are humming and hawing China has carried her necessities to another market and done business with others, who have paid her more attention.—*London Times,* 30/11.

REVIEW OF BOOKS
ON
SUBJECTS OF PROFESSIONAL INTEREST

"Stresses in Wire-Wrapped Guns and in Gun Carriages." By Lieutenant Colonel Colden L'H. Ruggles, U. S. Army. $3.00 net. (New York: John Wiley & Sons, Inc.)

This book presents a highly mathematical explanation of stresses in guns and gun carriages. The important engineering principles underlying the design of wire-wrapped guns and of gun carriages are explained and illustrated in a manner to interest the student and to assist the designer.

The problem of the wire-wrapped, or, as the navy calls it, the wire-wound guns, is discussed under the cases of wrapping the wire at constant tension and at varying tension. The latter method, though theoretically the best, is not the one adopted because of the fact that the wrapping of the wire at a constant tension is much more convenient and, due to its great elastic strength, permits the tube to be compressed close to its elastic limit without causing the stress in the wire to approach too closely its elastic limit when the gun is fired.

Determination of the forces brought upon gun carriages by the discharge of the gun is next treated, the army 3-inch field carriage being the first example used in the explanation—a type furnishing analogies to the naval landing gun. This is followed by the 6-inch disappearing carriage model of 1915, in which the calculations for the stresses are extremely complicated and numerous.

The formulas for calculating the profile of the throttling grooves in the recoil cylinders of guns are most carefully explained. After this follows a general discussion of the method used in designing gun carriages.

The problems involved in the determination of the stresses in all the various parts of gun carriages are taken up minutely. Then the principles governing the strength of toothed gearing used in gun mountings are discussed, the book concluding with the design, strength and requirements of counter recoil springs, the 5-inch barbette carriage being explained.

The book is a most able and complete mathematical treatise, covering all the foregoing problems in gun design, and it is adapted primarily to the use of advanced students of this intricate subject. R. E.

"The Design of Marine Engines and Auxiliaries." By Edward M. Bragg, S. B., Professor of Naval Architecture and Marine Engineering, University of Michigan. $3.00 net. (New York: D. Van Nostrand Co.)

This book treats in a clear and practical style of reciprocating marine steam engines and such auxiliaries as condensers, air pumps, turning engines, and reversing engines. The diagrams and illustrations which

appear in the text are numerous and well drawn; and there are a number of detached plates.

Proportioning of cylinders and balancing of the moving parts receive much attention; and there is a very informing discussion of many things that relate to the economical performance of an engine. The design of steam chest details, valve gear, columns, shafting and all other engine details is very adequately discussed; and the subject of torsional vibration of shafting is treated at sufficient length.

Although the steam turbine has come into its own for marine use and is one of the distinguishing features of our latest ships, yet we must remember that many of our most important fighting units and auxiliary vessels are equipped with reciprocating steam engines; and that the Diesel engine and gas engine in one form or another will probably be with us for many years to come. Hence it is important that naval officers detailed for engineering duty keep themselves informed as to the principles of design and construction of the numerous reciprocating machinery units intrusted to their care.

To all officers interested in the design, care, or operation of machinery afloat, this book is commended. T. W. K.

"Official Diplomatic Documents Relating to the Outbreak of the European War." Edited by Edmund von Mach. 608 pages. Price $6.00. (New York: MacMillan, 1916.)

The documents in this collection include all the published correspondence of the present belligerents, together with important speeches, declarations, etc., covering the period from the murder of Archduke Ferdinand, June 28, 1914, to the Declaration of the Triple Entente, two months later. The translations follow those of the similar British Official Collection. The arrangement, however, is superior, in that, instead of printing all the documents of the British *Blue Book*, then all those of the German *White Book*, etc., the editor has broken up these pamphlet collections and put all the despatches of each day together.

The documents, arranged in this order, cover some 600 pages, or about half the volume. The rest is taken up by photographic facsimiles, page by page, of the "books" published by the various powers.

From the material thus presented, one may, according to the editor, arrive at the truth regarding responsibility for the war. What the truth is he does not at once tell us; but his opinions are sufficiently indicated by the foot-notes, which throughout are a thinly-veiled argument in defense of the Central Powers. The editor, it may be added, is author of a book published by McClurg & Co., called *Germany's Point of View*.

Partisanship in foot-notes, however, can do no great harm if the despatches themselves are carefully studied. For purposes of such study they are here presented in very convenient form. A. F. W.

NOTICE

The U. S. Naval Institute was established in 1873, having for its object the advancement of professional and scientific knowledge in the Navy. It is now in its forty-fourth year of existence, trusting as heretofore for its support to the officers and friends of the Navy. The members of the Board of Control cordially invite the co-operation and aid of their brother officers and others interested in the Navy, in furtherance of the aims of the Institute, by the contribution of papers and communications upon subjects of interest to the naval profession, as well as by personal support and influence.

On the subject of membership the Constitution reads as follows:

ARTICLE VII

Sec. 1. The Institute shall consist of regular, life, honorary, and associate members.

Sec. 2. Officers of the Navy, Marine Corps, and all civil officers attached to the Naval Service, shall be entitled to become regular or life members, without ballot, on payment of dues or fees to the Secretary and Treasurer. Members who resign from the Navy subsequent to joining the Institute will be regarded as belonging to the class described in this Section.

Sec. 3. The Prize Essayist of each year shall be a life member without payment of fee.

Sec. 4. Honorary members shall be selected from distinguished Naval and Military Officers, and from eminent men of learning in civil life. The Secretary of the Navy shall be, *ex officio*, an honorary member. Their number shall not exceed thirty (30). Nominations for honorary members must be favorably reported by the Board of Control, and a vote equal to one-half the number of regular and life members, given by proxy or presence, shall be cast, a majority electing.

Sec. 5. Associate members shall be elected from Officers of the Army, Revenue Cutter Service, foreign officers of the Naval and Military professions, and from persons in civil life who may be interested in the purposes of the Institute.

Sec. 6. Those entitled to become associate members may be elected life members, provided that the number not officially connected with the Navy and Marine Corps shall not at any time exceed one hundred (100).

Sec. 7. Associate members and life members, other than those entitled to regular membership, shall be elected as follows: "Nominations shall be made in writing to the Secretary and Treasurer, with the name of the member making them, and such nominations shall be submitted to the Board of Control, and, if their report be favorable, the Secretary and Treasurer shall make known the result at the next meeting of the Institute, and a vote shall then be taken, a majority of votes cast by members present electing."

Sec. 8. The annual dues for regular and associate members shall be two dollars, all of which shall be for a year's subscription to the UNITED STATES NAVAL INSTITUTE PROCEEDINGS, payable upon joining the Institute, and upon the first day of each succeeding January. The fee for life membership shall be thirty dollars, but if any regular or associate member has paid his dues for the year in which he wishes to be transferred to life membership, or has paid his dues for any future year or years, the amount so paid shall be deducted from the fee for life membership.

ARTICLE X

Sec. 2. One copy of the PROCEEDINGS, when published, shall be furnished to each regular and associate member (in return for dues paid), to each life member (in return for life membership fee paid), to honorary members, to each corresponding society of the Institute, and to such libraries and periodicals as may be determined upon by the Board of Control.

The PROCEEDINGS are published monthly, and anyone may subscribe for them. The annual subscription is $3.00; single copies, 50 cents for the bi-monthly and quarterly, and 30 cents for the monthly PROCEEDINGS. Annual dues for members and associate members, $2.00. Fee for life membership, $30.00.

All letters should be addressed U. S. Naval Institute, Annapolis, Md., and all checks, drafts, and money orders should be made payable to the same.

SPECIAL NOTICE

NAVAL INSTITUTE PRIZE ESSAY, 1918

A prize of two hundred dollars, with a gold medal, and a life-membership (unless the author is already a life member) in the Institute, is offered by the Naval Institute for the best essay presented on any subject pertaining to the naval profession.

On the opposite page are given suggested topics. Essays are not limited to these topics and no additional weight will be given an essay in awarding the prize because it is written on one of these suggested topics over one written on any subject pertaining to the naval profession.

The following rules will govern this competition:

1. The award for the prize will be made by the Board of Control, voting by ballot and without knowledge of the names of the competitors.

2. Each competitor to send his essay in a sealed envelope to the Secretary and Treasurer on or before January 1, 1918. The name of the writer shall not be given in this envelope, but instead thereof a motto. Accompanying the essay a separate sealed envelope will be sent to the Secretary and Treasurer, with the motto on the outside and writer's name and motto inside. This envelope is not to be opened until after the decision of the Board.

3. The successful essay to be published in the PROCEEDINGS of the Institute; and the essays of other competitors, receiving honorable mention, to be published also, at the discretion of the Board of Control; and no change shall be made in the text of any competitive essay, published in the PROCEEDINGS of the Institute, after it leaves the hands of the Board.

4. If, in the opinion of the Board of Control, the best essay presented is not of sufficient merit to be awarded the prize, it may receive "Honorable Mention" or such other distinction as the Board may decide.

5. In case one or more essays receive "Honorable Mention," the writers thereof will receive a minimum prize of seventy-five dollars and a life-membership (unless the author is already a life member) in the Institute, the actual amounts of the awards to be decided by the Board of Control in each case.

6. An essay not having received honorable mention may be published also, at the discretion of the Board of Control, but only with the consent of the author.

7. The essay is limited to fifty (50) printed pages in the PROCEEDINGS of the Institute.

8. It is requested that all essays be submitted typewritten and in duplicate, if practicable; essays submitted written in longhand and in single copy will, however, receive equal consideration.

9. In the event of the prize being awarded to the winner of a previous year, a gold clasp, suitably engraved, will be given in lieu of the gold medal.

By direction of the Board of Control.

J. W. GREENSLADE,
Lieut. Commander, U. S. N., Secretary and Treasurer

PRIZE ESSAY TOPICS

SUGGESTED AT THE INVITATION OF THE BOARD OF CONTROL

BY

THE PRESIDENT OF THE NAVAL INSTITUTE, THE SUPERINTENDENT OF THE NAVAL ACADEMY, THE PRESIDENT OF THE NAVAL WAR COLLEGE, AND THE COMMANDERS-IN-CHIEF OF THE ATLANTIC, PACIFIC AND ASIATIC FLEETS.

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LIST OF PRIZE ESSAYS

1879

Naval Education. Prize Essay, 1879. By Lieut. Comdr. A. D. Brown, U. S. N.

NAVAL EDUCATION. First Honorable Mention. By Lieut. Comdr. C. F. Goodrich, U. S. N.

NAVAL EDUCATION. Second Honorable Mention. By Commander A. T. Mahan, U. S. N.

1880

"The Naval Policy of the United States." Prize Essay, 1880. By Lieutenant Charles Belknap, U. S. N.

1881

The Type of (I) Armored Vessel, (II) Cruiser best suited to the Present Needs of the United States. Prize Essay, 1881. By Lieutenant E. W. Very, U. S. N.

SECOND PRIZE ESSAY, 1881. By Lieutenant Seaton Schroeder, U. S. N.

1882

Our Merchant Marine: The Causes of its Decline and the Means to be taken for its Revival. "Nil clarius aquis." Prize Essay, 1882. By Lieutenant J. D. Kelley, U. S. N.

"MAIS IL FAUT CULTIVER NOTRE JARDIN." Honorable Mention. By Master C. G. Calkins, U. S. N.

"SPERO MELIORA." Honorable Mention. By Lieut. Comdr. F. E. Chadwick, U. S. N.

"CAUSA LATET: VIS EST NOTISSIMA." Honorable Mention. By Lieutenant R. Wainwright, U. S. N.

1883

How may the Sphere of Usefulness of Naval Officers be extended in Time of Peace with Advantage to the Country and the Naval Service? "Pour encourager les Autres." Prize Essay, 1883. By Lieutenant Carlos G. Calkins, U. S. N.

"SEMPER PARATUS." First Honorable Mention. By Commander N. H. Farquhar, U. S. N.

"CULIBET IN ARTE SUA CREDENDUM EST." Second Honorable Mention By Captain A. P. Cooke, U. S. N.

1884.

The Reconstruction and Increase of the Navy. Prize Essay, 1884. By Ensign W. I. Chambers, U. S. N.

1885

Inducements for Retaining Trained Seamen in the Navy, and Best System of Rewards for Long and Faithful Service. Prize Essay, 1885. By Commander N. H. Farquhar, U. S. N.

1886

What Changes in Organization and Drill are Necessary to Sail and Fight Effectively Our Warships of Latest Type? "Scire quod nescias." Prize Essay, 1886. By Lieutenant Carlos G. Calkins, U. S. N.

THE RESULT OF ALL NAVAL ADMINISTRATION AND EFFORTS FINDS ITS EXPRESSION IN GOOD ORGANIZATION AND THOROUGH DRILL ON BOARD OF SUITABLE SHIPS. Honorable Mention. By Ensign W. L. Rodgers, U. S. N.

1887

The Naval Brigade: its Organization, Equipment and Tactics. "In hoc signo vinces." Prize Essay, 1887. By Lieutenant C. T. Hutchins.

1888

Torpedoes. Prize Essay, 1888. By Lieut. Comdr. W. W. Reisinger, U. S. N.

1891

The Enlistment, Training and Organization of Crews for our Ships of War. Prize Essay, 1891. By Ensign A. P. Niblack, U. S. N.

DISPOSITION AND EMPLOYMENT OF THE FLEET: SHIP AND SQUADRON DRILL. Honorable Mention, 1891. By Lieutenant R. C. Smith, U. S. N.

1892

Torpedo-boats: their Organization and Conduct. Prize Essay, 1892. By Wm. Laird Clowes.

1894

The U. S. S. Vesuvius, with Special Reference to her Pneumatic Battery. Prize Essay, 1894. By Lieut. Comdr. Seaton Schroeder, U. S. N.

NAVAL REFORM. Honorable Mention, 1894. By Passed Assistant Engineer F. M. Bennett, U. S. N.

1895

Tactical Problems in Naval Warfare. Prize Essay, 1895. By Lieut. Comdr. Richard Wainwright, U. S. N.

A SUMMARY OF THE SITUATION AND OUTLOOK IN EUROPE. An Introduction to the Study of Coming War. Honorable Mention, 1895. By Richmond Pearson Hobson, Assistant Naval Constructor, U. S. N.

SUGGESTIONS FOR INCREASING THE EFFICIENCY OF OUR NEW SHIPS. Honorable Mention, 1895. By Naval Constructor Wm. J. Baxter, U. S. N.

THE BATTLE OF THE YALU. Honorable Mention, 1895. By Ensign Frank Marble, U. S. N.

1896

The Tactics of Ships in the Line of Battle. Prize Essay, 1896. By Lieutenant A. P. Niblack, U. S. N.

THE ORGANIZATION, TRAINING AND DISCIPLINE OF THE NAVY PERSONNEL AS VIEWED FROM THE SHIP. Honorable Mention, 1896. By Lieutenant Wm. F. Fullam, U. S. N.

NAVAL APPRENTICES, INDUCEMENTS, ENLISTING AND TRAINING. The Seaman Branch of the Navy. Honorable Mention, 1896. By Ensign Ryland D. Tisdale, U. S. N.

THE COMPOSITION OF THE FLEET. Honorable Mention, 1896. By Lieutenant John M. Ellicott, U. S. N.

1897

Torpedo-boat Policy. Prize Essay, 1897. By Lieutenant R. C. Smith, U. S. N.

A PROPOSED UNIFORM COURSE OF INSTRUCTION FOR THE NAVAL MILITIA. Honorable Mention, 1897. By H. G. Dohrman, Associate Member, U. S. N. L

TORPEDOES IN EXERCISE AND BATTLE. Honorable Mention, 1897. By Lieutenant J. M. Ellicott, U. S. N.

1898

Esprit de Corps: A Tract for the Times. Prize Essay, 1898. By Captain Caspar Frederick Goodrich, U. S. N.

OUR NAVAL POWER. Honorable Mention, 1898. By Lieut. Comdr. Richard Wainwright, U. S. N.

TARGET PRACTICE AND THE TRAINING OF GUN CAPTAINS. Honorable Mention, 1898. By Ensign R. H. Jackson, U. S. N.

1900

Torpedo Craft: Types and Employment. Prize Essay, 1900. By Lieutenant R. H. Jackson, U. S. N.

THE AUTOMOBILE TORPEDO AND ITS USES. Honorable Mention, 1900. By Lieutenant L. H. Chandler, U. S. N.

1901

Naval Administration and Organization. Prize Essay, 1901. By Lieutenant John Hood, U. S. N.

1903

Gunnery in Our Navy. The Causes of its Inferiority and Their Remedies. Prize Essay, 1903. By Professor Philip R. Alger, U. S. N.

A NAVAL TRAINING POLICY AND SYSTEM. Honorable Mention, 1903. By Lieutenant James H. Reid, U. S. N.

SYSTEMATIC TRAINING OF THE ENLISTED PERSONNEL OF THE NAVY. Honorable Mention, 1903. By Lieutenant C. L. Hussey, U. S. N.

OUR TORPEDO-BOAT FLOTILLA. The Training Needed to Insure its Efficiency. Honorable Mention, 1903. By Lieutenant E. L. Beach, U. S. N.

1904

The Fleet and Its Personnel. Prize Essay, 1904. By Lieutenant S. P. Fullinwider, U. S. N.

A PLEA FOR A HIGHER PHYSICAL, MORAL AND INTELLECTUAL STANDARD OF THE PERSONNEL FOR THE NAVY. Honorable Mention, 1904. By Medical Inspector Howard E. Ames, U. S. N.

1905

American Naval Policy. Prize Essay, 1905. By Commander Bradley A. Fiske, U. S. N.

THE DEPARTMENT OF THE NAVY. Honorable Mention, 1905. By Rear Admiral Stephen B. Luce, U. S. N.

1906

Promotion by Selection. Prize Essay, 1906. By Commander Hawley O. Rittenhouse, U. S. N.

THE ELEMENTS OF FLEET TACTICS. First Honorable Mention, 1906. By Lieut. Comdr. A. P. Niblack, U. S. N.

GLEANINGS FROM THE SEA OF JAPAN. Second Honorable Mention, 1906. By Captain Seaton Schroeder, U. S. N.

THE PURCHASE SYSTEM OF THE NAVY. Third Honorable Mention, 1906. By Pay Inspector J. A. Mudd, U. S. N.

1907

Storekeeping at the Navy Yards. Prize Essay, 1907. By Pay Inspector John A. Mudd, U. S. N.

BATTLE REHEARSALS. A few thoughts on our next step in Fleet-Gunnery. First Honorable Mention, 1907. By Lieut. Comdr. Yates Stirling, U. S. N.

THE NAVAL PROFESSION. Second Honorable Mention, 1907. By Commander Bradley A. Fiske, U. S. N.

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THE MONEY FOR THE NAVY. First Honorable Mention, 1908. By Pay Inspector John A. Mudd, U. S. N.

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THE NAVY AND COAST DEFENCE. Honorable Mention, 1909. By Commodore W. H. Beehler, U. S. N.

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A PLEA FOR PHYSICAL TRAINING IN THE NAVY. Honorable Mention, 1909. By Commander A. P. Niblack, U. S. N.

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The Merchant Marine and the Navy. Prize Essay, 1910. By Naval Constructor T. G. Roberts, U. S. N.

THE NAVAL STRATEGY OF THE RUSSO-JAPANESE WAR. Honorable Mention, 1910. By Lieutenant Lyman A. Cotton, U. S. N.

1911

Navy Yard Economy. Prize Essay, 1911. By Paymaster Charles Conrad, U. S. N.

NAVAL POWER. Honorable Mention, 1911. By Captain Bradley A. Fiske, U. S. N.

WANTED—FIRST AID. Honorable Mention, 1911. By Commander C. C. Marsh, U. S. N.

1912

Naval Might. Prize Essay, 1912. By Lieutenant Ridgely Hunt, U. S. N. (retired).

INSPECTION DUTY AT THE NAVY YARDS. Honorable Mention, 1912. By Lieut. Commander T. D. Parker, U. S. N.

1913

The Greatest Need of the Atlantic Fleet. Prize Essay, 1913. By Lieut. Commander Harry E. Yarnell, U. S. N.

NAVY DEPARTMENT ORGANIZATION. A Study of Principles. First Honorable Mention, 1913. By Commander Yates Stirling, Jr., U. S. N.

TRAINED INITIATIVE AND UNITY OF ACTION. Second Honorable Mention, 1913. By Lieut. Commander Dudley W. Knox, U. S. N.

1914

The Great Lesson from Nelson for To-Day. Prize Essay, 1914. By Lieutenant Commander Dudley W. Knox, U. S. Navy.

NAVAL POLICY AS IT RELATES TO THE SHORE ESTABLISHMENT AND THE MAINTENANCE OF THE FLEET. Honorable Mention, 1914. By Captain John Hood, U. S. Navy.

OLD PRINCIPLES AND MODERN APPLICATIONS. Honorable Mention, 1914. By Lieutenant Commander Dudley W. Knox, U. S. Navy.

MILITARY PREPAREDNESS. Honorable Mention, 1914. By Naval Constructor Richard D. Gatewood, U. S. Navy.

1915

The Rôle of Doctrine in Naval Warfare. Prize Essay, 1915. By Lieutenant Commander Dudley W. Knox, U. S. Navy.

AN AIR FLEET: OUR PRESSING NAVAL WANT. First Honorable Mention, 1915. By Lieutenant Commander Thomas Drayton Parker, U. S. Navy.

TACTICS. Second Honorable Mention, 1915. By Ensign H. H. Frost, U. S. Navy.

DEFENSE AGAINST SURPRISE TORPEDO ATTACK. Third Honorable Mention, 1915. By Ensign R. T. Merrill, 2d, U. S. Navy.

1916

The Moral Factor in War. Prize Essay, 1916. By Lieutenant (J. G.) H. H. Frost, U. S. Navy.

NAVAL PERSONNEL. First Honorable Mention, 1916. By Lieutenant Commander J. K. Taussig, U. S. Navy.

EDUCATION AT THE U. S. NAVAL ACADEMY. Second Honorable Mention, 1916. By Lieutenant Ridgely Hunt, U. S. Navy.

SOME UNDERLYING PRINCIPLES OF MORALE. Third Honorable Mention, 1916. By Commander Dudley W. Knox, U. S. Navy.

LARGE *vs.* A GREATER NUMBER OF SMALLER BATTLESHIPS. Lippincott Prize Essay. By Lieutenant Commander Thomas Lee Johnson, U. S. Navy.

LIST OF ARTICLES RELATED TO WAR COLLEGE WORK

Attention is invited to the following articles which have appeared in the PROCEEDINGS during the past three years; they treat of subjects which closely concern Naval War College Work; a perusal of them should prove profitable:

1914

WAR AND POLICY. By Captain J. S. McKean, U. S. Navy. No. 149.
MORAL TRAINING IN PREPARATION FOR WAR. By Charles M. Bakewell. No. 149.
THE GREAT LESSON FROM NELSON FOR TO-DAY. By Lieut. Commander D. W. Knox, U. S. Navy, P. E. No. 150.
NAVAL POLICY AS IT RELATES TO THE SHORE ESTABLISHMENT AND THE MAINTENANCE OF THE FLEET. By Captain John Hood, U. S. Navy, H. M., 1914. No. 150.
DETAILS OF NAVY DEPARTMENT ADMINISTRATION: NAVY DEPARTMENT POLICIES. By Lieut. Commander N. L. Jones, U. S. Navy. No. 150.
MILITARY PREPAREDNESS. By Naval Constructor Richard Gatewood, U. S. Navy, H. M., 1914. No. 151.
WHAT SHOULD BE THE RELATIONS BETWEEN BATTLE AND RESERVE FLEETS. By Captain W. S. Sims, U. S. Navy. No. 151.
OLD PRINCIPLES AND MODERN APPLICATIONS. By Dudley W. Knox, U. S. Navy, H. M., 1914. No. 152.
THE BATTLE OF THE SEA OF JAPAN. Translation Japanese General Staff Report. By Captain W. T. Hoadley, U. S. Marine Corps. No. 152.
SOME FOREIGN AND OTHER VIEWS OF WAR AND THE STUDY AND CONDUCT OF WAR. By Captain Albert Gleaves, U. S. Navy. No. 153.
STRATEGIC PROBLEMS AND THEIR SOLUTION. By Captain R. von Labres, I. G. N. Translated by Surgeon J. F. Leys, U. S. Navy. No. 153.

1915

EMPLOYMENT OF TORPEDO VESSELS IN NIGHT SEARCH. Translation. By Lieut. Commander W. N. Jeffers, U. S. Navy. No. 155.
EXTRACTS FROM MAHAN'S NAVAL STRATEGY. By Lieutenant W. T. Lightle, U. S. Navy. No. 155.
THE RÔLE OF DOCTRINE IN NAVAL WARFARE. Prize Essay. By Commander Dudley W. Knox, U. S. Navy. No. 156.
NAVAL WAR COLLEGE PRINCIPLES AND METHODS APPLIED AFLOAT. By Captain W. S. Sims, U. S. Navy. No. 156.
THE WORK AHEAD OF NAVAL AVIATION. Lieutenant R. C. Saufley, U. S. Navy. No. 156.
AN AIR FLEET, OUR PRESSING NAVAL WANT. By Commander T. D. Parker, U. S. Navy. No. 157.
THE ESTIMATE OF THE SITUATION. By Rear Admiral Austin M. Knight, U. S. Navy. No. 157.
THE CONTROL OF FLEETS IN ACTION. By Lieutenant H. H. Frost, U. S. Navy. No. 158.
NAVAL SCOUTS. By Commander Ralph Earle, U. S. Navy. No. 158.
PEACE OR WAR? By Commander A. W. Hinds, U. S. Navy. No. 159.
BATTLE TACTICS. By Lieutenant R. A. Dawes, U. S. Navy. No. 160.

1916

THE GENERAL PROBLEM OF NAVAL WARFARE. By Comdr. Dudley W. Knox, U. S. Navy. No. 161.

NOTES ON NAVAL TACTICS. By Lieut. Comdr. H. E. Yarnell, U. S. Navy. No. 161.

THE MORAL FACTOR IN WAR. By Lieutenant (J. G.) H. H. Frost, U. S. Navy. No. 162.

NAVAL STRATEGY. By Rear Admiral Bradley A. Fiske, U. S. Navy. No. 162.

WANTED! A NAVAL MILITIA MISSION. By Lieut. Comdr. R. R. Riggs, U. S. Navy (retired). No. 162.

TERRITORIAL WATERS. By Lieut. Comdr. H. G. Sparrow, U. S. Navy. No. 162.

EDUCATION AT THE U. S. NAVAL ACADEMY. By Lieutenant Ridgeley Hunt, U. S. Navy. No. 163.

THE INDUSTRIAL IN MODERN WAR. By Naval Constructor R. D. Gatewood, U. S. Navy. No. 163.

LARGE *vs.* A GREATER NUMBER OF SMALLER BATTLESHIPS. By Lieut. Comdr. T. L. Johnson, U. S. Navy. No. 164.

THE GREATEST NEED OF THE U. S. NAVY: PROPER ORGANIZATION FOR THE SUCCESSFUL CONDUCT OF WAR. By Lieut. Comdr. W. P. Cronan, U. S. Navy. No. 164.

MILITARY PRUDENCE. By Commander A. W. Hinds, U. S. Navy. No. 165.

BATTLESHIPS. By Commander Ralph Earle, U. S. Navy. No. 165.

THE TRADITIONS OF THE NAVAL SERVICE. By Lieut. (J. G.) H. H. Frost, U. S. Navy.

SOME UNDERLYING PRINCIPLES OF MORALE. By Commander D. W. Knox, U. S. Navy. No. 166.

THE DEPARTMENTAL STRATEGIC PROBLEM AS A DRILL FOR THE ENTIRE NAVAL ESTABLISHMENT AFLOAT. By Lieut. Comdr. Z. H. Madison, U. S. Navy. No. 166.